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No. 8336

United States
Circuit Court of Appeals
For the Ninth Circuit.

Vol 1799

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

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VOLUME 1
Transcript of Record.

Upon Appeal from the United States District Court for the Southern District of California, Central Division.

FILED
OCT 31 1932
PAUL P. O'BRIEN,
CLERK

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No.

United States
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Names and Addresses of Attorneys.

For Plaintiff, Appellant and Cross-Appellee:

WALLACE R. LANE, Esq.,
CLARENCE J. LOFTUS, Esq.,

Marquette Building,
Chicago, Illinois.

RAYMOND IVES BLAKESLEE, Esq.,

Title Insurance Building,
Los Angeles, California.

For Defendants, Appellees and Cross-Appellants,

LYON & LYON, Esqs.,
LEONARD S. LYON, Esq.,
RICHARD F. LYON, Esq.,

National City Bank Building,
Los Angeles, California.

CITATION OF APPEAL

UNITED STATES OF AMERICA, SS.

THE PRESIDENT OF THE UNITED STATES,
To PACIFIC FINANCE CORPORATION, and
LLEWELLYN IRON WORKS
GREETING:

You are hereby cited and admonished to be and appear in the United States Circuit Court of Appeals for the Ninth Circuit at the City of San Francisco, California, thirty days (30) from and after the day this citation bears date, pursuant to an Appeal from the United States District Court for the Southern District of California, Central Division, wherein Otis Elevator Company is appellant and you are appellees, to show cause, if any there be, why the decree rendered against the said appellant from which said appeal was allowed should not be corrected and why speedy justice should not be done the parties in that behalf.

WITNESS, the Honorable Paul J. McCormick, Judge of the District Court of the United States for the Southern District of California, Central Division, this 16th day of December, 1931.

Paul J. McCormick
United States District Judge.

ACKNOWLEDGMENT OF SERVICE OF CITATION

Service of the above citation accepted on behalf of Pacific Finance Corporation and LLewellyn Iron Works, this 16th day of December, 1931.

Lyon & Lyon
Leonard S. Lyon
Solicitor and of Counsel for Appellees Defendants.

[Endorsed]: In Equity No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Citation of Appeal Filed Dec 16 1931 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Wallace R. Lane, Clarance J. Loftus and Raymond Ives Blakeslee, 631 Title Insurance Bldg., Los Angeles, Calif., Counsel for Plaintiff.

CITATION ON APPEAL.

UNITED STATES OF AMERICA—SS

TO OTIS ELEVATOR COMPANY,

GREETING:

You are hereby cited and admonished to be and appear at the United States Circuit Court of Appeals for the Ninth Circuit at the City of San Francisco, California, thirty days from and after the day this citation bears date, pursuant to an order allowing a cross-appeal by defendants, filed and entered in the Clerk's office of the District Court of the United States for the Southern District of California, Central Division, from a final decree signed, filed and entered on the 30th day of November, 1931, in a suit wherein you are plaintiff and Pacific Finance Corporation and Llewellyn Iron Works

are defendants, in Equity No. M-25-J, to show cause, if any there be, why said decree should not be corrected and why justice should not be done to the parties in that behalf.

WITNESS the HONORABLE WILLIAM P. JAMES, United States District Judge of the Southern District of California, this 29 day of January, 1932.

Wm P James
United States District Judge for the
Southern District of California.

ACKNOWLEDGMENT OF SERVICE OF CITATION.

Copy of the above citation received by Otis Elevator Company this 30th day of January, 1932, reserving all objections as to timeliness, etc.

Raymond Ives Blakeslee
Solicitor & of Counsel for Plaintiff.

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation et al Defendant Citation on Appeal. Filed Feb 3-1932 R. S. Zimmerman, Clerk By C. A. Simmons, Deputy Clerk Lyon & Lyon Frederick S. Lyon Leonard S. Lyon Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY,)
)
Plaintiff,)
—vs—)
) In Equity
PACIFIC FINANCE CORPORATION) No. M 25 J
and LLEWELLYN IRON WORKS,)
)
Defendants.)

* * * * * * * * * * * * *

BILL OF COMPLAINT

To the Honorable the Judges of the United States District Court for the Southern District of California.

The Otis Elevator Company, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, with an office and principal place of business at New York, New York, a citizen and an inhabitant of the State of New Jersey, complains against the Pacific Finance Corporation and the Llewellyn Iron Works, both corporations organized and existing under and by virtue of the laws of the State of California, with their offices and principal places of business at Los Angeles, California, citizens of said State of California, and inhabitants and residents of the Southern Division of the Southern District of California, and plaintiff says:—

I.

Humphrey F. Parker, of New Zealand, residing at Washington, District of Columbia, United States of America, being the first, original and sole inventor of a

certain new and useful Control for Electric Elevators, not before known, and having made due application therefor within the time and under the conditions prescribed by statute and duly prosecuted the same, complying in all respects with the requirements of law for the grant of letters patent, there was on the 26th day of August, 1924, duly issued to the said Humphrey F. Parker letters patent of the United States No. 1,506,380, duly sealed and countersigned and executed in due form of law for said invention and improvements whereby there was vested in said Humphrey F. Parker, his successors and assigns for seventeen (17) years from and after the 26th day of August, 1924, the exclusive right to make, use and sell said invention and improvements throughout the United States and territories thereof, the original of which patent or a duly certified copy thereof being ready here in court to be produced, and a printed Patent Office copy of the specification, claims and drawings thereof being filed herewith as "Plaintiff's Exhibit No. 1".

II.

Plaintiff states that by virtue of the premises it became, by direct assignments in writing, duly executed, signed and delivered, and now is the sole and exclusive owner of said invention and improvements and letters patent No. 1,506,380, and of all rights in, to and under the same, including all rights of recovery for past infringement thereof.

III.

Plaintiff states that the said Humphrey F. Parker for good and lawful cause surrendered said letters patent

No. 1,506,380 with the consent of the plaintiff to the Commissioner of Patents, and having made due application therefor on the 13th day of November, 1925, and having in all things complied with the Acts of Congress in such cases made and provided, they were cancelled and a reissue of said letters patent in due form of law was issued to the plaintiff, Otis Elevator Company, a corporation of New Jersey, on the 23rd day of March, 1926, No. 16,297, as the assignee of said Humphrey F. Parker, which said reissued letters patent are now of record in the Patent Office of the United States, the original of said reissued patent or a duly certified copy thereof being ready here in court to be produced, and a printed Patent Office copy of the specification, claims and drawings thereof being filed herewith as "Plaintiff's Exhibit No. 2".

Whereby there was secured to plaintiff, its successors, legal representatives and assigns, for the term of seventeen (17) years from the 26th day of August, 1924, being the date when said letters patent were originally issued, the full and exclusive rights of making, using and vending to others to be used, the said control for electric elevators disclosed in said original letters patent, dated August 26, 1924, No. 1,506,380, and which are disclosed and claimed in said reissued letters patent No. Re. 16,297, dated March 23, 1926.

IV.

Plaintiff states that the said invention and improvements set forth, described and claimed in said letters patent are of great utility, and that since plaintiff became the owner thereof, as aforesaid, it has invested and expended large sums of money and has been to great trouble

and expense in and about the said inventions and improvements, and said invention has been and is of great benefit and advantage to the plaintiff, and the trade and public have generally acknowledged and acquiesced in the validity of said letters patent and in the aforesaid rights of plaintiff, and if plaintiff can receive lawful protection against infringers, the said letters patent will be of great value and benefit to it and great profits and advantages will accrue to it therefrom; plaintiff is prepared to supply the entire demand therefor.

Defendants have had full knowledge and notice of the rights of plaintiff in, to and under said patents and have been requested to desist from infringement of said reissued letters patent, but have refused so to do, and defendants' manufacture, sale and use of said invention and their preparation for and avowed determination to continue the same, and their other unlawful acts in this respect and in defiance of the rights of plaintiff have the effect to and do encourage and induce others to infringe said patent in disregard of plaintiff's rights.

V.

Defendants well knowing the premises and in violation of the rights of plaintiff, after notice of plaintiff's exclusive rights under said reissued letters patent and of their infringement thereof, without authority under said letters patent or otherwise, since plaintiff acquired its rights as hereinbefore set forth, and prior to the commencement of this suit and subsequent to the issuance of said reissued patent and within six (6) years, within the Southern Division of the Southern District of California, have jointly and severally, wrongfully, wantonly and con-

tinuously infringed said letters patent, and manufactured, sold, installed and used elevators embodying and containing said invention, and are still so doing and are threatening so to do in the immediate future and during the term of said letters patent. Though requested to desist from said infringement, defendants refuse so to do, whereby plaintiff has been and is still being and will be, so long as such infringement continues, greatly and irreparably damaged and injured and deprived of gains, profits, benefits and advantages which it would otherwise make and receive under said reissued letters patent, and defendants have made and received and are making and receiving, by such infringement, large and continuing profits, benefits and advantages which belong to plaintiff, the amount and extent of which plaintiff cannot ascertain, except by the accounting herein prayed.

Wherefore, and because without adequate remedy, except in this court of equity, plaintiff prays a preliminary injunction pending this suit, and a perpetual injunction restraining and enjoining defendants, their officers, agents, servants, employees and attorneys, and those in active concert or participating with them, from making, using, selling or installing said patented invention, or any part thereof, or offering so to do, or aiding or abetting, or in any way causing or inducing infringement of said reissued letters patent, or from in any way advertising said devices herein complained of and from making, using, selling or installing the infringing devices herein complained of, or any similar thereto, and that the said reissued letters patent may be declared to be valid and plaintiff to be the sole and lawful owner thereof and of

all rights in, to and under the same, and that this cause may be referred to a Master to take and state an accounting of profits, gains and advantages and damages accruing by reason of said infringement; that said Master may be given all the power conferred upon Masters by law and the rules in equity, and that plaintiff may have judgment for the profits, gains, advantages and damages so found and the costs of this suit, and that the damages awarded may be increased three fold in view of the wanton character of this infringment, and that plaintiff may have such other and further relief as equity may require.

OTIS ELEVATOR COMPANY
By J. H. Van Alstyne
President.

Wallace R. Lane
Gibson Dunn & Crutcher
By S. M. Haskins
Solicitors and of Counsel for Plaintiff.

STATE OF NEW YORK,)
COUNTY OF NEW YORK,) ss.
)

J. H. VAN ALSTYNE being first duly sworn deposes and says that he is the President of the Otis Elevator Company, the plaintiff corporation herein named, that he has read the foregoing Bill of Complaint and knows the contents thereof of his own knowledge, and that the same is true, save as to those matters stated on information and belief, and as to those matters he believes them to be true; that he verily believes that the said Humphrey F. Parker was the original, first and sole inventor of said

Control for Electric Elevators set forth in said Letters Patent No. 1,506,380, granted August 26, 1924, and the reissue thereof No. 16,297, recited in the foregoing bill of complaint; further that he verily believes that said plaintiff corporation above named is the lawful owner of the said letters patent and the reissue thereof.

J. H. Van Alstyne

Subscribed and sworn to before me at New York, County of New York, and State of New York, this 20th day of April, 1927.

[Seal] Nellie A. Coyne
Notary Public.
My commission expires March 30-1928
NOTARY PUBLIC, New York County
New York County Clerk's No. 328
New York County Register's No. 8273
Commission expires March 30th, 1928

For Plaintiff's Exhibit No. 1 attached to original complaint (Patent No. 1,506,380, issued August 26, 1924) see book of exhibits.

For Plaintiff's Exhibit No. 2 attached to original complaint (Reissue Patent No. 16,297, issued March 23, 1926) see book of exhibits.

[Endorsed]: M 25 J Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works Defendants Bill of Complaint Filed Jun 6 1927 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Office of Parkinson & Lane Marquette Building Chicago Gibson, Dunn & Crutcher

UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF CALIFORNIA, SOUTHERN DIVISION.

OTIS ELEVATOR COMPANY, Plaintiff,	:	
vs.	:	IN EQUITY
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	:	No. M-25-J.

ORDER EXTENDING TIME TO ANSWER.

Good cause appearing therefor and upon motion of Lyon & Lyon, attorneys for defendants, IT IS HEREBY ORDERED that defendants have to and including September 15, 1927, within which to answer plaintiff's bill of complaint herein.

Dated at Los Angeles, California, this 18th day of July, 1927.

Edward J. Henning
District Judge.

[Endorsed]: In Equity No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Order Extending Time to Answer Filed Jul 18 1927 R. S. Zimmerman, Clerk, By L J Cordes Deputy Clerk Lyon & Lyon Frederick S. Lyon Leonard S. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants.

UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

ANSWER TO BILL OF COMPLAINT.

Now come the above-named defendants Pacific Finance Corporation and Llewellyn Iron Works, corporations organized and existing under and by virtue of the laws of the State of California, having their offices and principal places of business at Los Angeles, California, and at all times saving and reserving unto themselves all benefit and advantage of exception which can or may be had or taken to the errors or uncertainties or other imperfections in the bill of complaint herein contained for answer thereunto or unto so much of such parts thereof as said defendants are advised is or are material for them to answer unto, say as follows:

1. Defendants are without knowledge as to the citizenship or residence or the incorporation and location of the corporate plaintiff except as set forth in the bill of complaint herein, and for want of such knowledge, deny each and every of the allegations thereof contained in said bill of complaint.

2. Answering Paragraph I of the bill of complaint herein, defendants deny that the Humphrey F. Parker there mentioned was the first, original or sole or any inventor of any new or useful control for electric elevators; deny that the alleged invention referred to in said bill of complaint was not known before the alleged invention of said Humphrey F. Parker; admit that on the 26th day of August, 1924, letters patent of the United States No. 1,506,380 were issued to Humphrey F. Parker, but allege that defendants are without knowledge as to whether due application was made for letters patent within the time or under the conditions prescribed by statute or said letters patent were duly prosecuted complying in all respects with the requirements of law for the grant of letters patent, and for want of such knowledge, deny the same; and defendants further deny that said letters patent No. 1,506,380 were duly issued in law or that there was thereby vested in said Humphrey F. Parker or his successors or assigns for seventeen years from and after the 26th day of August, 1924, or for any time, the exclusive or any right to make or use or sell said alleged invention or alleged improvements throughout the United States or territories thereof or any portion thereof.

3. Answering Paragraph II of the bill of complaint herein, defendants say that they are without knowledge as to whether plaintiff has become or now is the sole or exclusive owner of said alleged invention or alleged improvements or of said letters patent No. 1,506,380 or of any or all rights in, to or under the same, and for want of such knowledge, deny each and every allegation of Paragraph II of said bill of complaint.

4. Answering Paragraph III of the bill of complaint herein, defendants deny that the said Humphrey F. Parker for good or lawful cause surrendered said letters patent No. 1,506,380 to the Commissioner of Patents of the United States with the consent of the plaintiff or otherwise, but admit that said letters patent were cancelled and a reissue of said letters patent issued to plaintiff Otis Elevator Company on the 23rd day of March, 1926, as the alleged assignee of said Humphrey F. Parker; defendants deny that due application was made for said reissue of said letters patent and deny that all acts of Congress for such cases made and provided were complied with; and defendants further deny that there was or has been secured to plaintiff, its successors, legal representatives or assigns for the term of seventeen years from the 26th day of August, 1924, or for any time, the full or exclusive or any right of making or using or vending to others to be used the said alleged control for electric elevators allegedly disclosed in said original letters patent dated August 26, 1924, No. 1,506,380 or allegedly disclosed or claimed in said reissued letters patent No. 16,297, dated March 23, 1926.

5. Answering Paragraph IV of said bill of complaint, defendants deny that the alleged invention and improvements asserted to be set forth, described or claimed in said letters patent are of great or any utility or that said plaintiff became the owner thereof as alleged, and that it has invested large or any sums of money or has been to any trouble or expense in or about said alleged inventions or improvements and deny that said alleged invention has been or is of any benefit or advantage to the trade or that the trade or public have generally

acknowledged or acquiesced in the validity of said letters patent or in any rights of plaintiff therein; and deny that said letters patent or any part thereof will be of any value or benefit to plaintiff or that any benefits or advantages will accrue to the plaintiff therefrom.

6. Further answering Paragraph IV of said bill of complaint, defendants deny that they have had full knowledge or notice of the rights asserted by plaintiff under the letters patent referred to in said bill of complaint, but admit that immediately prior to the filing of this suit, they were requested to desist from the continued use of the elevators asserted in said bill of complaint to infringe said reissued letters patent, and defendants deny that they have refused to desist from infringement of said reissued letters patent, or that any acts of defendants have encouraged or induced others to infringe said letters patent, or have included the manufacture, sale or use of any device or structure embodying said alleged invention.

7. Answering Paragraph V of said bill of complaint, defendants deny that they have jointly or severally, at any time or place, infringed, or threatened or intended to infringe, the reissued letters patent referred to in the bill of complaint herein, or have manufactured or sold or used or installed elevators embodying or containing any invention patented in said letters patent or are still so doing, and deny that they have so infringed well-knowing the premises or after notice of plaintiff's alleged exclusive rights under said reissued letters patent or without authority under said letters patent or wrongfully or wantonly or at all; and deny that plaintiff has or will be greatly or irreparably or at all damaged or injured

or deprived of any gains, profits, benefits or advantages by reason of any infringing act of defendants or any of them, or that defendants or any of them are making or receiving large or any profits or benefits or advantages which belong to plaintiff, or by means of any infringement of said letters patent.

8. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that while the application for said original letters patent of Humphrey F. Parker was pending in the Patent Office of the United States, the applicants for the said patent so intentionally limited and confined the claims of the said application under the requirements of the Commissioner of Patents in the United States that those claiming under said letters patent cannot now seek for or obtain a construction of said claims sufficiently broad to cover any elevator of defendants complained of in this suit; and defendants further allege that while the application for the reissue of said letters patent of Humphrey F. Parker was pending in the Patent Office of the United States, that applicants for the reissue of said patent so intentionally limited and confined the claims of said reissue application under the requirements of the Commissioner of Patents of the United States, that those claiming under said reissued letters patent cannot now seek for or obtain a construction of such claims sufficiently broad to cover any elevator of defendants complained of in this suit; and defendants further allege that plaintiff is now illegally seeking to expand the scope of the claims of said reissue letters patent so as to cover the elevators of defendants complained of in this suit by including and embracing substantially the identical subject

matter which was previously rejected and intentionally omitted under the requirements of the Commissioner of Patents of the United States in the application for said original letters patent and the application for the reissue thereof.

9. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that said Parker reissued letters patent are not enforcible against defendants because defendants have acquired intervening rights in that the elevators complained of in the bill of complaint herein are patentably different from the structure illustrated in said reissued letters patent and are the exclusive design of defendants; that said elevators were installed by defendants subsequent to the grant of said original Parker patent and prior to the application for the reissue thereof and were not covered by the claims of said original patent which fact was determined by defendant before installing said elevators and was relied upon by defendants in making such installation; that plaintiff knew of the installation of said elevators by defendants and made application for the reissue of said Parker patent for the purpose of enlarging the claims of said patent to cover said elevators; that said reissued Parker patent is not enforcible against defendants because the subject matter now sought to be covered by said reissued Parker patent was not claimed in said original Parker patent and was thereby dedicated to the public, and because the defendants in installing said elevators acted in reliance on said dedication and by reason thereof plaintiff is estopped to assert under said reissued Parker patent against these defendants.

10. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that by reissue of said letters patent of Parker, plaintiff has obtained broader claims than were contained in said original letters patent, and that said broadened reissued letters patent are void because the application

therefor was unreasonably delayed from the grant of said original letters patent on August 26, 1924 to November 13, 1925 by reason of the negligence and inattention of the owners thereof.

11. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the reissued Parker letters patent in suit are void because the same purport to cover a different invention from any which the original of said letters patent was intended to secure.

12. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that said reissued Parker letters patent in suit are void because the same do not particularly point out or distinctly claim the part improvement or combination sought to be covered by said letters patent and because said reissued letters patent by ambiguity and the needless multiplication of nebulous and functional claims are calculated to deceive and mislead the public.

13. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that each and every element and feature, as well as the use, function and effect thereof, both singly and in divers substantially similar associations of parts, elements and sub-combinations of the subject matter described and defined in each and every of the claims of said reissued Parker patent were, long prior to the alleged invention thereof by Parker, matters of common knowledge among those skilled in the art to which said reissued letters patent relate, such common knowledge including the various prior letters patent hereinafter enumerated, and that by reason of such general, common knowledge, the conception, description and production of the subject matter described in each and every claim of said reissued letters patent did not require or involve the exercise of the inventive faculties and were the result of mere mechanical skill and judgment, and that said Parker reissued

letters patent and each and every of the claims thereof are null and void for want of invention.

14. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the result produced by the association of parts, means or elements described respectively in said reissued Parker letters patent in suit and in each and every of the claims thereof, is not a product of their combination, but a mere aggregate of their several effects, each and all of which several effects as well as parts, means or elements necessary for their production, were matters of common knowledge among those skilled in the art to which said letters patent relate long before the alleged invention thereof by said Parker and more than two years prior to the date of the application for said original Parker patent, and each and every of the claims of said reissued Parker patent do not present patentable combinations but only aggregations of old and well-known parts, means or elements.

15. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the subject matter of said Parker letters patent and of each and every of the claims of the reissue thereof was not novel at the time of the alleged invention thereof by Parker, and that the said reissued letters patent and each of the claims thereof are invalid and void for the reason that the subject matter thereof had been shown and described in letters patent prior to the alleged invention and discovery of the same by said Parker, or more than two years prior to the application for said original Parker patent, in and by the following letters patent of the United States:

Inventor	Patent No.	Patent Date	Subject of Patent
H. M. L. Crouan	344,307	June 22, 1886	Hydraulic Lift or Hoist
W. F. Bullock & W. F. Hanson	388,627	Aug. 28, 1888	Elevator
W. E. Nickerson	403,440	May 14, 1889	Electric Control Device for Elevators
W. E. Nickerson	403,442	May 14, 1889	Electric Controlling Mechanism for Elevators
W. E. Nickerson	403,439	May 14, 1889	Electric Controlling Device for Elevator-Carriages
W. E. Nickerson	404,015	May 28, 1889	Electric Switch for Elevators
R. F. McFeely	404,361	May 28, 1889	Electric Apparatus for Controlling Elevators
C. E. Ongley	410,182	Sept. 3, 1889	Electrically-Controlled Elevator
H. W. Leonard	468,100	Feb. 2, 1892	Electric Elevator
S. D. Strohm	570,827	Nov. 3, 1896	Electrically-Controlled Elevator
W. D. Baldwin	547,834	Oct. 15, 1895	Electric Transmission of Power
L. S. Buffington & W. C. Jones	530,578	Dec. 11, 1894	Electric Elevator-Controller
C. A. Harkness	553,157	Jan. 14, 1896	Elevator
E. C. Jenkins	550,099	Feb. 25, 1896	Elevator-Controller

Inventor	Patent No.	Patent Date	Subject of Patent
N. P. Otis & R. C. Smith	610,197	Sept. 6, 1898	Controlling Device for Electric Elevators
J. B. Smalley & Chas. A. Reiners	634,220	Oct. 3, 1899	Electric Signaling Apparatus for Elevators
C. M. Bartholomew	651,562	June 12, 1900	Elevator
F. K. Fassett	698,827	Apr. 29, 1902	Controller for Elevators
W. H. B. Teamer	718,230	Jan. 13, 1903	Elevator
H. Rowntree	724,951	Apr. 7, 1903	Automatic Electric Elevator
G. W. Nistle	718,375	Jan. 13, 1903	Automatic Stop for Elevators
C. Naujoks & F. C. Naujoks	851,829	Apr. 30, 1907	Electrically-Controlled Elevator
J. D. Ihlder	820,499	May 15, 1906	Electric-Elevator-Control System
H. W. Leonard	888,447	May 19, 1908	Controlling Means for Electric Motors
I. B. Ritter	909,675	Jan. 12, 1909	Automatic Device for Bringing Hydraulic Elevator Cars to the Floor-Level
J. E. Boyce	952,698	Mar. 22,1910	Means for Operating Elevator-Door Locks

J. D. Ihlder	1,040,546	Oct. 8, 1912	Elevator Control
B. Hamilton	1,086,527	Feb. 10, 1914	Street-Indicator for Cars
A. Sundh	1,066,678	July 8, 1913	Car Switch Controller for Electric Elevators
F. C. Furlow	1,268,109	June 4, 1918	Elevator-Controlling System
H. Rowntree	1,268,156	June 4, 1918	Control Mechanism for Automatically-Operating Apparatus
F. C. Furlow	1,268,111	June 4, 1918	System of Control for Electric Elevators
N. O. Lindstrom & C. F. E. Olofson	1,360,420	Nov. 30, 1920	Electric Elevator

And in and by letters patent of Germany No. 105,234 published August 29, 1899 to Berlin-Anhaltische Maschinenbau-Aktien-Gesellschaft in Berlin-Martinikenfelde, received at the Library of the United States Patent Office on or about September 27, 1899.

WHEREFORE, defendants pray that plaintiff's bill of complaint be dismissed and that defendants have judgment against plaintiff for their costs and disbursements herein.

PACIFIC FINANCE CORPORATION,
LLEWELLYN IRON WORKS,

By Leonard S. Lyon
Attorney for Defendants

LYON & LYON
By Leonard S. Lyon
Attorneys for Defendants

[Endorsed]: No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Answer to Bill of Complaint Received Copy of the Within Document Sep 13 1927 Gibson, Dunn & Crutcher Per M A K Filed Sep 13 1927 R. S. Zimmerman, Clerk, By L. J. Cordes Deputy Clerk Lyon & Lyon Frederick S. Lyon Leonard S. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

NOTICE OF HEARING OF MOTION TO AMEND ANSWER

To OTIS ELEVATOR COMPANY, plaintiff above named, and GIBSON, DUNN & CRUTCHER and RAYMOND IVES BLAKESLEE, its attorneys:

You and each of you will please take notice that we will bring on for hearing the annexed motion to amend defendants' answer in accordance with Equity Rules 19 and 34, before the above entitled court, at the Post Office Building, Los Angeles, California, next Monday morning, January 28, 1929, at ten o'clock A.M., or as soon thereafter as we can be heard, the proposed amendment to said answer being attached hereto. This motion is based upon the files, records, papers and proceedings in this cause and on the affidavit of William A. Doble attached hereto.

Dated: Los Angeles, California,
January 23rd, 1929.

Lyon & Lyon
Frederick S. Lyon
Attorneys for Defendants.

Authorities in Support of Motion

Hopkins New Federal Equity Rules and Notations under Equity Rules 19 and 34.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

MOTION TO AMEND DEFENDANTS' ANSWER

Now come the defendants in the above entitled cause and move the court for leave to amend the answer heretofore filed herein by defendants by adding thereto and making a part thereof paragraphs 16, 17, 18 and 19; that said amendments are material and necessary to a proper defense of the case; that the matter contained and set forth in said paragraphs 16-19 both inclusive was not known to the defendants prior to filing the original answer herein.

WHEREFORE defendants pray that said amendment be allowed and considered a part of the answer herein upon the hearing of this cause.

Lyon & Lyon
Frederick S. Lyon
Attorneys for Defendants

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

AFFIDAVIT OF WILLIAM A. DOBLE

STATE OF CALIFORNIA)
)ss.
COUNTY OF LOS ANGELES)

WILLIAM A. DOBLE, being first duly sworn, on oath deposes and says:

I am an engineer, specializing as an expert witness in patent litigation. I am retained in the above entitled case on behalf of the defendants, as an expert witness. I am familiar with the patent in suit, the structures alleged to constitute the infringement involved in this case, and the prior art to be offered on behalf of the defendants at the trial of this case.

I have read and am familiar with the amendment to the answer by the defendants. The defenses set forth in said amended answer have just been discovered by myself from a study of the patent in suit and file histories of the proceedings on the application leading to the grant of the original Parker patent and on the application leading to the grant of the Parker reissued letters

patent in suit, a study of the patents issued prior to the application upon which the original Parker patent issued, and a comparison of such patents and file histories with the defendants' structure.

The Parker reissued letters patent in suit relates to a complicated electrical apparatus and construction and contains the total of 68 claims. It has been necessary for the preparation of the defense in this suit to examine over 100 prior patents and publications which likewise relate to complicated electrical apparatus and structures. Affiant has been engaged in analysis of said Parker reissued letters patent and said prior patents and publications for a period of approximately six months. The proposed amendments and additional defenses contained in paragraphs 16 to 19 inclusive are material and necessary to the proper defense of the case and were not known nor could the same be known by the exercise of reasonable diligence prior to filing the original answer herein, but only have been discovered from affiant's prolonged and exhaustive study and examination of the Parker reissued letter patent in suit and said prior patents and publications.

William A. Doble.

Subscribed and sworn to before me this 23rd day of January, 1929.

[Seal] Olive M. Hurley
Notary Public in and for said County and State

[Endorsed]: No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Notice of Motion, Motion and Affidavit Due Service and

receipt of a Copy of the within Notice Motion & Affidavit is hereby admitted this 24 day of January, 1929 Gibson Dunn & Crutcher by A. M. Bradley Atty. for plaintiff Filed Jan 23 1929 R. S. Zimmerman R. S. Zimmerman, Clerk Lyon & Lyon Frederick S. Lyon Leonard S. Lyon Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

AMENDMENT TO ANSWER TO BILL OF COMPLAINT

Now come the above named defendants, leave of court being first had and obtained, and amend their answer heretofore filed herein to the bill of complaint by adding thereto the following paragraphs numbered 16-19 both inclusive and made a part of said original answer.

16. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that neither the plaintiff or defendants nor anyone has ever made, used or sold any "control for electric elevators" constructed in accordance with the drawings

and/or specifications of said Parker reissued letters patent, and that the defendants have not made, used or sold, either jointly or severally, any control for electric elevators embodying anything plainly disclosed and distinctly claimed in said Parker reissued letters patent.

17. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the subject matter alleged in said bill of complaint to be monopolized by the reissue claims in suit is not disclosed by the specifications and/or drawings of either the original Parker patent or the Parker reissued letters patent in suit.

18. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the disclosures of said Parker reissued letters patent in suit are inoperative and lacking in practical utility, particularly in respect to the subject matter alleged in said bill of complaint to be monopolized by said letters patent.

19. Further answering said bill of complaint and as an additional and separate defense thereto, defendants allege that the subject matter of said Parker reissued letters patent and each and every of the claims of the reissue thereof was not novel at the time of the alleged invention thereof by Parker, and that the said reissued letters patent and each of the claims thereof are invalid and void for the reason that the subject matter thereof had been shown and disclosed in letters patent prior to the alleged invention and discovery of the same by Parker, or more than two years prior to the application for said original Parker patent, in and by the following letters patent of the United States:

Inventor	Patent No.	Patent Date	Subject of Patent
F. F. Worthen	1,219,061	Mar. 13, 1917	Mechanism for Automatically Controlling Elevator Cars
A. H. Buckelew	724,662	Apr. 7, 1903	Controlling Device for Elevators
C. G. Armstrong	499,411	June 13, 1893	Electric Signalling Apparatus for Elevator
E. R. Carichoff	783,174	Feb. 21, 1905	System of Electrical Control
B. McInnerney	1,175,368	Mar. 14, 1916	Controller for Elevators
B. McInnerney	855,066	May 28, 1907	Means of Control for an Electically-Actuated Body

and in and by the following German letters patent:

C. Haushahn	180,099	published Dec. 28, 1906 (Stuttgart)
Othmar O. Pollok	167,288	published Jan. 19, 1906 (Frankfurt a.M)- received in the Library of the U. S. Patent Office on or about February 21, 1906

WHEREFORE, defendants pray that plaintiff's bill of complaint be dismissed and that defendants have judgment against plaintiff for the costs and disbursements herein.

PACIFIC FINANCE CORPORATION,
LLEWELLYN IRON WORKS,

By Lyon & Lyon
Attorney for Defendants

LYON & LYON
By Frederick S. Lyon
Attorneys for Defendants

[Endorsed]: No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Amendment to Answer to Bill of Complaint Due Service and receipt of a Copy of the within Amendment to Answer is hereby admitted this 24 day of January, 1929 Gibson Dunn & Crutcher by A. M. B. Atty. for plaintiff Filed Jan 23 1929 R. S. Zimmerman R. S. Zimmerman, Clerk Filed Feb 4 1929 R. S. Zimmerman, Clerk by Edmund L. Smith Deputy Clerk Lyon & Lyon Frederick S. Lyon Leonard B. Lyon Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal. Attys. for Defts

At a stated term, to wit: The JANUARY Term, A. D. 1929, of the District Court of the United States of America, within and for the CENTRAL Division of the Southern District of California, held at the Court Room thereof, in the City of LOS ANGELES on MONDAY the 21ST day JANUARY in the year of our Lord one thousand nine hundred and twenty-nine.

Present:

The Honorable WM. P. JAMES, District Judge.

OTIS ELEVATOR CO., Plaintiff,)
)
vs.)
) No. M-25-J-Eq.
PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS, Defendants)

This cause coming before the Court for setting for trial, C. W. McClain being present as official stenographic reporter of the testimony and the proceedings, F. S. Lyon, Esq. appearing as counsel for the defendants requests that this cause be referred to a special master, and states grounds in support thereof, and files affidavits; whereupon A. M. Bradley and R. I. Blakeslee, Esqs., appearing as counsel for the plaintiff object to reference to a special master, and state grounds in support of objection. Now, it is by the Court ordered that this cause be, and it is referred to David B. Head, United States Commissioner, as Special Master herein, for hearing and report; counsel to draw order of reference for the signature of the Court. Exception is allowed to plaintiff to order of reference.

UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

OTIS ELEVATOR COMPANY, Plaintiff	)	
vs.	)	In Equity M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

ORDER OF REFERENCE.

This cause coming before the Court at this time for setting for trial; Gibson, Dunn & Crutcher and Raymond Ives Blakeslee appearing for plaintiff, and Frederick S. Lyon and Lyon & Lyon appearing for defendants; and it appearing that because of the congestion of the Court's calendar, there are many other cases entitled to be first heard, including a large number of criminal cases which are entitled to preference over civil matters as to the trial thereof, and that trial hereon cannot be set before the court prior to August, 1929; and it further appearing that the trial of the above cause will be protracted and may consume weeks of the Court's time by reason of the complexity of the issues involved, and that it will be impossible for the Court to give the necessary time to a trial of this cause during this term of court, and it appearing that this condition will continue unless many of the patent cases and other causes now pending, and which require long trials, can be disposed of in the manner herein provided; and it appearing that early trial

is required in justice to the defendants, and, hence that in order to fairly and within a reasonable time dispose of the business before the Court and to determine this cause and to aid justice between the parties, it is necessary that this Order be made;

IT IS ORDERED that this cause be referred to David B. Head, Esq., as Special Master to take and hear the evidence offered by the respective parties and to make his conclusions as to the facts in issue, and recommend the judgment to be entered thereon; the Special Master is authorized and empowered to do all things and to make such orders as may be required to accomplish a full hearing on all of the matters of fact and law in issue in this cause.

The objection of the plaintiff to this reference is hereby noted, and an exception to this Order allowed to plaintiff.

DATED January 21, 1929.

BY THE COURT:
Wm P James
District Judge.

[Endorsed]: Original In Equity No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendant Order of Reference Filed Jan 21 1929 R. S. Zimmerman, Clerk By D W Ramsey Deputy Clerk Lyon & Lyon Frederick S. Lyon Leonard S. Lyon Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION.

OTIS ELEVATOR COMPANY, Plaintiff, vs. PACIFIC FINANCE CORPORATION, and LLEWELLYN IRON WORKS, Defendants.	IN EQUITY NO. M-25-J.

PETITION TO VACATE ORDER OF REFERENCE AND OTHER RELIEF.

Comes now the above named plaintiff and petitions this Court (a) to grant an order for an injunction restraining and enjoining the defendants and their counsel and others from proceeding in this case before the Master pursuant to said order of January 21, 1929, or otherwise, (b) to vacate and set aside the Order of Reference entered herein on or about January 21, 1929, and (c) to issue an order setting this case for trial in open court. In support thereof, plaintiff shows:

1. That the bill of complaint was filed herein on June 6, 1927, charging infringement of the Parker Patent, Re. No. 16,297;

2. That the defendants instead of answering within the time allowed by the Rules sought and obtained an order from his Honor, Judge Henning, extending their time for answering to September 15, 1927 (an extension of about two and one-half months);

3. That on September 13, 1927, defendants filed the usual answer herein;

4. That the time for taking depositions herein under the orders obtained by agreement of counsel did not expire until after October 1st, 1928;

5. That prior to August 1, 1928, plaintiff practically completed its prima facie case by depositions and stipulations and is therefore in a position to conclude its case in chief in about one day's time in open court;

6. That there is also pending in this Court a suit for infringement brought by this plaintiff against the Baker Iron Works, et al, Equity No. M-21-M, based on the Kesten and Osborne patent, Re. 15,753, directed to Automatic Self-Leveling Elevators. The bill was filed June 3, 1927. The defendants there are represented by Lyon & Lyon, who represent the defendants here. The defendants there, as here, instead of answering, sought and obtained an Order from this court, extending their time to August 15, 1927, to file their answer. Prior to August, 1928, this plaintiff in that case, as here, practically completed its prima facie case by depositions and therefore is in a position to conclude its case in chief in open court in about one day's time;

7. Both this and the said Baker case, when called in July, 1928, were continued by the defendant until December 3, 1928.

When called in December, they were continued by agreement of counsel to the January term, 1929.

At the call in January, 1929, when plaintiff asked to have these cases set for trial in open court, the defendants, in accordance with their previously expressed intention so to do, moved this court for a reference to a

Master in each case, urging as plaintiff is informed and believes, as their reasons therefor, congestion of this court's calendar, and the conclusions of their partisan affiants that because of the nature and complexity of the patents and structures involved, it would require several weeks to try either case in open court, and that unless the defendants in each were given immediate trial, they would suffer ireparable damage and injury without setting forth the facts from which such conclusions could be determined.

In the case of this plaintiff against Baker Iron Works, et al, the defendants request for a reference to a Master was not allowed by Judge McCormick, while in this case their request was granted by Judge James, and a reference made on a showing of a general condition and without a proper showing of an existing "exceptional condition" which required such reference.

8. That in June, 1928, plaintiff notified defendants of record that it would rely on claims 3, 22, 29, 36, 40, 41 and 65 of the Parker patent here sued on;

9. That these claims relate to rather simple mechanism and defendants actual structures involved have been presented in plaintiff's proofs by simplified drawings (plaintiff's exhibits 7, 8 and 9), easily read and understood. These exhibits and the proofs pertaining thereto were offered in evidence and copies furnished defendants' counsel in June, 1928;

10. That defendants rely on no prior uses to support their alleged defenses, but on some alleged prior patents which are quite easily read and understood. Plaintiff is informed and believes the defendants' proofs will practically consist of the introduction of some of these prior patents set up in their answer and a discussion thereof by

defendants' witnesses; therefore, and in view of the fact that plaintiff's prima facie case is practically completed and can be concluded in about one day's time, plaintiff alleges that this case can and should be tried in less than one week's time in open court, for then the proofs offered can be confined to the material issues involved, whereas the rule before Masters is generally to take all proofs insisted on by either party, including the arguments of expert witnesses, thus not infrequently prolonging into weeks matters which in open court could be concluded in days;

11. That the case of Otis Elevator Co. vs. Atlantic Elevator Co., based on the Kesten & Osborne patent, Re. No. 15,753, pending in the United States District Court for the Southern District of New York was tried during October, 1928, in open court in New York before Judge Knox in less than four days' time, notwithstanding the issues there were no clearer than here, and that the simplicity of the Kesten & Osborne patented structure no less than that of the structures here involved. In that case plaintiff offered by deposition substantially the same character of proof as it has offered here, and then concluded its prima facie case in open court in about one day's time as it confidently believes it can here.

The defendant there introduced a considerable number of alleged prior patents and took considerable evidence as to alleged prior uses, and put on a professional expert witness to discuss them, previously forecasting that its expert testimony would require several days, but as a matter of fact the direct examination was concluded in about one day's time, and the cross-examination in about two hours.

That the defense in the said Atlantic Elevator case was conducted by and with the cooperation of the Westinghouse Electric & Manufacturing Co., intervenor, and assisted by the Llewellyn Iron Works, the defendant here, part of the depositions in said Atlantic Elevator case being taken by Lyon & Lyon, defendant's counsel here, and part of defendants' depositions in the Llewellyn case here taken by counsel associated or interested with the defense in the said Atlantic Elevator case. Substantially the same defenses were urged at the trial in the said Atlantic Elevator case as are relied on by the defendant in the Baker Iron Works case.

The said Atlantic Elevator case involving the same Kesten and Osborne reissue patent and substantially the same prior references and structures as are involved in Baker Iron Works case, was tried, notwithstanding defendant's use of a professional expert witness, in about four days (with which facts defendants' counsel, Lyon & Lyon, were familiar, as plaintiff is informed and believes, long prior to presenting their motions for reference in either the Baker or Llewellyn case), with no apparent difficulty experienced by the Court, counsel or witness reading or understanding the patents or structures involved. It is substantially the same situation, as plaintiff is informed and believes, which defendant's counsel here, Lyon & Lyon, contended before this court (Judge McCormick), in support of their motion for a reference in the Baker Iron Works case, was so complicated and complex as to necessarily require several weeks to try in open court.

12. That no proper showing was made herein that "some exceptional condition requires" a reference to a Master herein for:

(a) There is no showing how or why this case should consume weeks of the court's time, but merely a guess by defendants' partisan expert;

(b) There is no showing of the complexity of the matters involved, except the conclusion of defendants' partisan professional expert witness (whose statements indicate he is going to exhaust many irrelevant and immaterial subjects, if permitted to testify before a Master, where his acts cannot be properly controlled), whereas the patent in suit which is before the court shows on its face that the structure of the claims of the seven claims sued on is simple and easily understood;

(c) There is no showing that a preliminary trial before the Master will ipso facto afford an early trial in open court;

(d) There is no showing that if an immediate trial is not had damage will result to the defendant (if this point were material, which it is not) except the vague and indefinite conclusion of its chief engineer, Baruch, but on the contrary plaintiff's offer of proof at the hearing shows that the defendants have been given preference in the trade;

(e) There are no sufficient or proper facts set forth to show why an early trial of this case is necessary to protect the interest of the defendants, conceding that the point is material, which it is not;

(f) It does not appear that in the "interest of economy of time" that hearings have been and are being had in this district first in one class of cases and then in another, each class being given an opportunity within a reasonable time;

(g) It does not appear that the preference given criminal cases has been in moderation only;

(h) It does not appear that the time of the court in view of the whole docket has been so distributed as to give Equity cases their share of precedence;

(i) It does not appear that there is an emergency in this district due to lack of Judges;

(j) It does not appear that the conditions recited in the order of reference are exceptional, but on the contrary they appear to be the general conditions existing in this and most of the other districts throughout the country;

(k) It does not appear that the plaintiff moved for or consented to the reference, but on the contrary strenuously object to any such reference;

(l) It does not appear that sufficient facts exist to establish an exceptional condition which would require this court of equity, at defendants' request, to force a plaintiff, over its objection, to go through a preliminary trial before a Master, or which requires a court of equity to deprive this plaintiff of its right to have its case first tried in this court.

WHEREFORE, plaintiff prays that the order of reference entered herein or or about January 21, 1929, be vacated and set aside: and that an injunction issue restraining and enjoining the defendants and/or their counsel from proceeding in this case before a Master pursuant to said order of January 21, 1929, or otherwise, and for an order setting this case for trial in this court, and for such other relief as the plaintiff may be entitled to in this court of equity.

OTIS ELEVATOR COMPANY
By Parkinson & Lane
Its Counsel

Wm A Loftus
OF COUNSEL.

STATE OF ILLINIOS)
) SS:
COUNTY OF COOK)

CLARENCE J. LOFTUS, being first duly sworn, deposes and says that he is of mature age, resides at Chicago, Illinois, where he is and has been for many years engaged in the practice of law, especially pertaining to patents; that he is quite familiar with the various litigations, patents, and subject matter referred to in the foregoing petition, and has actively participated as associate counsel in the taking of depositions and proofs and other proceedings had in the two cases pending in this court, as well as the case pending in the Southern District of New York, including the trial thereof, and therefore has direct knowledge of the matters stated in the foregoing petition, which statement of facts he verily believes to be true.

Clarence J Loftus

Subscribed and sworn to before me this 22nd day of February, 1929.

I. V. Curran
Notary Public

[Endorsed]: Original In Equity No. M-25-J United States District Court Southern District of California Southern Division Otis Elevator Company, Plaintiff, -vs- Pacific Finance Corporation, and Llewellyn Iron Works, Defendants. Petition to Vacate Order of Reference and Other Relief. Received copy of within Petition Feb 28, 1929. Lyon & Lyon Henry S. Richmond Filed Feb 28 1929 R. S. Zimmerman, Clerk, By M L Gaines Deputy Clerk

At a stated term, to wit: The January Term, A. D. 1929 of the District Court of the United States of America, within and for the Central Division of the Southern District of California, held at the Court Room thereof, in the City of Los Angeles on Monday the 4th day of March in the year of our Lord one thousand nine hundred and twenty-nine.

Present:

The Honorable Wm. P. James., District Judge.

Otis Elevator Co., Plaintiff,	)	
	)	
vs.	)	No. M-25-J Eq.
	)	
Pacific Finance Corporation and Llewellyn Iron Works, Defendants.	)	

This cause coming on at this time for hearing on Motion of Plaintiff to Vacate Order of Reference; Wm. A. Loftus, Esq., and R. I. Blakeslee, Esq. appearing as counsel for the plaintiff and L. S. Lyon, Esq., appearing as counsel for the defendants; and C. W. McClain being present as official stenographic reporter of the testimony and the proceedings; said R. I. Blakeslee, Esq. argues in support of Motion and R. I. Blakeslee argues further in support thereof, whereupon L. S. Lyon, Esq. argues in opposition to said motion, and Attorney Loftus argues in reply. Now, it is by the Court ordered that Motion to Vacate Order of Reference is denied, and an exception is allowed the plaintiff; and Motion to Stay proceedings before Master is dismissed.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	In Equity
	)	No. M-25-J
PACIFIC FINANCE CORPORATION	)	
and LLEWELLYN IRON WORKS,	)	
Defendants.	)	

STIPULATION APPROVING CONDENSED STATEMENT OF EVIDENCE PURSUANT TO EQUITY RULE 75.

IT IS HEREBY STIPULATED AND AGREED by and between plaintiff and defendants in the above entitled cause, by their counsel, that the annexed Condensed Statement of Evidence on the appeals of both plaintiff and defendants heretofore taken to the United States Circuit Court of Appeals for the Ninth Circuit is true, complete and properly prepared and may forthwith be approved by Hon. Wm. P. James, a Judge of this Court, and when so approved shall be filed in the Clerk's office and become a part of the record for the purposes of said appeals.

This stipulation shall be printed and included in the transcript on appeal.

Dated, Los Angeles, California, June 4, 1932.

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
SOLICITORS & COUNSEL FOR PLAINTIFF

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SOLICITORS & COUNSEL FOR DEFENDANT

ANNEXED CONDENSED STATEMENT OF EVIDENCE APPROVED June 18, 1932

Wm P. James
U. S. DISTRICT JUDGE

VOLUME I.

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
-vs-	)	No. M-25-J Equity
PACIFIC FINANCE CORPORATION, and LLEWELLYN IRON WORKS, Defendants.	)	

On January 21, 1929, defendants moved the court that this "case be referred to a Special Master to be heard,

tried and determined," and presented the affidavits of William A. Doble, and Milton Baruch, in support of said motion. Plaintiff appeared, objected to, and opposed the motion and filed the affidavit of Clarence J. Loftus in resistance thereto.

After hearing counsel for the respective parties, the court entered an order allowing defendants' motion, and referred the case to

"David B. Head, Esquire, as Special Master, to take and hear the evidence offered by the respective parties and to make his conclusions as to the facts in issue and recommend a judgment to be entered thereon,"

and allowed the plaintiff an exception to said order.

On or about March 4, 1929, plaintiff presented in open court a written petition to vacate said order of reference and filed the affidavits of William A. Loftus and Ludlow Shounard in support thereof. Defendant resisted and opposed this motion and after hearing counsel for the respective parties, the court on the same day denied said petition.

On April 2, 1929, the trial proceeded before the Master and continued without interruption to and including April 16, 1929.

PRESENT:

For Plaintiff; Messrs. Wallace R. Lane, Raymond Ives Blakeslee, and Clarence J. Loftus.

For Defendants: Messrs. Leonard S. Lyon, and Richard F. Lyon.

The following stipulation, previously entered into between counsel for the parties, was read into the record and received in evidence:

(T. 7)

"It is stipulated that Printed Patent Office copies of letters patent in the United States may be introduced into evidence by either party with the same force and effect as the originals; or duly certified copies thereof may be introduced, and that the dates appearing thereon shall be accepted by the parties for the purpose of this litigation as prima facie correct, with the understanding, however, that any inaccuracies appearing in these copies after comparing the same with the originals may be corrected by proper proof.

"It is further stipulated that each party may retain in its possession until the final hearing of the cause all the exhibits introduced into evidence by it, and also the original copies of the evidence, subject, however, to the understanding and agreement that each party will produce at its own expense all such exhibits and evidence at the final hearing of this cause, and will furnish at its own expense said exhibits to the other party or its attorneys upon request so to do at the time of taking the evidence here or for use in briefing or in connection with further conduct of its case.

"It is further stipulated that each party will furnish the other without expense one copy of all the depositions taken in this cause by it at the time of taking the same.

"Counsel for the plaintiff now produces, offers and introduces in evidence the printed Patent Office copies of the patents in suit, i. e., Humphrey F. Parker, control for elevators, No. 1,506,380, issued August 26, 1924, as Plaintiff's Exhibit No. 1.

"And the Reissue thereof, No. 16,297, issued March 23, 1926, as Plaintiff's Exhibit No. 2.

"I submit to counsel for the defendant the original of the Reissue No. 16,297, so that he may make comparison between it and the printed Patent Office copy offered in evidence as Plaintiff's Exhibit No. 2.

"It is stipulated that the Parker Reissue patent No. 16,297, March 23, 1926, a copy of which is offered in evidence as Plaintiff's Exhibit No. 2, was issued to the plaintiff in this case by the United States Patent Office on the date of issue appearing thereon.

"Counsel for the plaintiff now submits to defendants' counsel an original assignment from Humphrey F. Parker to the Plaintiff of patent No. 1,506,380, of August 26, 1924, said assignment being dated and sworn to November 12, 1925; and here offers in evidence a typewritten copy of the same; it being stipulated and agreed that this copy may be used in evidence with the same force and effect as the original.

"It is stipulated that the Otis Elevator Company is and was a corporation as alleged in the bill of complaint.

"Plaintiff having requested defendants' counsel to produce drawings of the alleged infringing signal control elevators installed in the Pacific Finance Building, No. 621 South Hope Street, Los Angeles, California, for the defendant Pacific Finance Corporation, by the defendant Llewellyn Iron Works, defendants' solicitors, Messrs. Lyon & Lyon, furnished plaintiff, on November 4, 1927, ten blueprints purporting to represent the elevator construction thus installed and in use in the Pacific Finance Building. Each of these 10 blueprints have the name 'Llewellyn Iron Works' on the lower portion thereof, and are numbered respectively:

I	SK-500—239-A.
II	SK-500—239-B
III	SK-500—239-C
IV	SK-500—239-D
V	400—330-A
VI	400—330-B
VII	400—330-C
VIII	400—330-D
IX	400—330-E
X	400—330-F

(T. 10)

"These are now offered in evidence as Plaintiff's Exhibit No. 4, I to X, inclusive, being diagrams of defendants' Pacific Finance elevator installation; it being admitted by the defendant that these drawings correctly represent to the extent which they show the installation of the four elevators at the said Pacific Finance Building in Los Angeles, California, made by the defendant, Llewellyn Iron Works, and installed by it for the defendant, Pacific Finance Corporation, previous to the filing of the bill and within six years of said date.

"It is stipulated that photostatic copies of the blueprints here produced may be used throughout this case with the same force and effect as the original blueprints.

"These photostatic copies are now offered in evidence in lieu of the originals as Plaintiff's Exhibit No. 4, I to X, inclusive. Each sheet of these photostatic copies being marked on their lower right-hand corner with the Roman numerals I to X, inclusive; it being understood that plaintiff may retain the original blueprints, subject to their being produced upon reasonable notice.

(Marked Plaintiff's Exhibit No. 4, I to X, inclusive.)"

(Testimony of Raymond W. Charles)

Exhibits 1, 2, 3, 4, I to X, inclusive, 5, 6, 7, 8 and 9 were offered in evidence. (T. 11)

Opening statements were thereupon made by counsel for the respective parties and counsel for plaintiff stated that plaintiff relied herein upon claims 3, 22, 29, 37, 40, 41 and 65 of the re-issued letters patent in suit.

RAYMOND W. CHARLES,

called as a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. LANE: (T. 81)

My name is Raymond W. Charles. I reside at San Francisco; am Vice-President and Pacific Coast Manager of the plaintiff, Otis Elevator Company. I have been with that company for about thirty years. We have a manufacturing plant in San Francisco, in which all of the hatchway material that is used west of the Rocky Mountains is fabricated; and we have in the various cities of the Pacific Coast buildings in which we maintain service stations of varying size and degree, depending upon the community and the volume of work available in those communities. Plaintiff's invested amount in this connection in the State of California, is approximately $1,000,000.00.

As to what general type of elevators the Otis Elevator Company had been making and installing previous to 1924 in this territory and elsewhere throughout the United States, I believe they were manufacturing all of the various types of accepted elevator equipment that had developed since the inception of the electric elevator some

(Testimony of Raymond W. Charles)

thirty years or more prior to that date, going up through the stages of the gear machines and the gearless machines, all of the earlier types being of the strictly manual control. I am speaking now of the usual types in commercial buildings, where either the geared or the gearless type required the manual operation of the attendant in the car for the raising or lowering of the elevator and stopping it at or near the floors.

The elevators in existence and being generally manufactured and sold previous to 1916 presented several inherent difficulties, mainly in connection with the smoothness of operation and accuracy of control and the fact that the operation was entirely or largely in the hands of the attendant, and required a fair degree of skill to get satisfactory results and inexperienced persons could produce very unsatisfactory and uncomfortable results.

The problem of stopping the car approximately or at the floor landings was always one of the problems and that was increasingly apparent as higher speed equipment became necessary or apparent due to the increased demands for elevator service. It was difficult to make landings accurately. The operator had to watch the entrance and exit of passangers and had to watch the floors and had to receive calls, remember them and act accordingly and the operator had to be a more skilled man than the developments then considered desirable would require.

I know what has been going on in the elevator industry during the last thirty years. They were seeking means to improve the operation of elevators by any practical method or scheme. They were continuously experimenting, developing and presenting developments.

(Testimony of Raymond W. Charles)

(T 87)

Prior and up to 1916 the Otis Elevator Company was constantly developing or working on developments or suggested developments for the improvement of elevator operation. Means were being sought for the improvement of the smoothness of operation, ease of handling, making landings more readily without inching, juggling, jolting or the uncomfortable operation incident frequently to incompetent attendants. (T 88)

A signal control elevator is one in which the starting movement is initiated by an attendant in the car and the stopping is controlled automatically through means of buttons placed in the car and on the various landings.

The Otis Elevator Company first put out commercially a signal control elevator in the early part of 1924. This was in the Standard Oil Building in New York, and I had its operation in mind when I defined signal control elevators. That elevator is still in operation. I think six were installed in that particular group, and I think later the number was augmented as the building was increased in size. I have seen that installation three or four times at intervals of approximately eighteen months, and I know how it is functioning. As Vice-President of the Company I have reports continuously on the general operation of any type of equipment that we are building. (T 91)

The first installation of the signal control elevator by the Otis Elevator Company in California was in the summer of 1925. I know about that installation and it is operating now and has been continuously.

(Testimony of Raymond W. Charles)

With respect to the difficulties in connection with the sale of the first installation of the signal control elevator at the Pacific Telephone & Telegraph Company Building in San Francisco, I would say that a signal control equipment was entirely new so far as commercial use was concerned. There was at that time only the one installation in the Standard Oil Building in New York in operation. We had had negotiations with the Pacific Telephone & Telegraph Company and their architects for their new Head Office Building, which they considered a monumental building, and we had discussed with them the best type of equipment for the installation. That type was the manual control micro-leveling gearless equipment. Before the negotiations had been definitely concluded, I returned to San Francisco from having seen for the first time this Standard Oil Equipment in New York, and feeling that it was a distinct advance and certainly had the ear-marks of the coming type of control, I made it a point to see Mr. MacFarland, President of the Pacific Telephone & Telegraph Company, shortly after my return, to present to him the consideration of the use and adoption of this signal control type of equipment instead of the manual, micro-drive type that had then been substantially agreed upon. Naturally, one of Mr. MacFarland's first objections was that it was new and that San Francisco was a long ways from New York. He seemed interested and stated that he had heard something of it through his own engineers and that he would have to investigate further. I felt that it was the coming type of equipment to the extent that we were willing to install it in connection with his building on the basis of

(Testimony of Raymond W. Charles)

close to our cost of doing it, with the understanding that if it were not satisfactory, we would remove that feature, installing the plant on the basis on which it was then about to be closed or had been concluded. (T. 94)

The contract was executed on the basis of the micro-drive-manual control, containing an optional clause for the installation of the signal control. This option was exercised, an extra pre-agreed upon amount being set up for the signal control basis. The signal control on the nine elevators was about $35,000.00 more than the cost for the micro-self-leveling elevators. (T. 95)

Five of these signal control elevators were put in temporary service at the Pacific Telephone & Telegraph Company Building in San Francisco in the summer of 1925, and the balance furnished by the end of 1925. Those signal control elevators are in operation now. They have handled the traffic requirements of the building in a thoroughly satisfactory manner. We have received expressions of commendation and approval from the users. They are in continuous operation so far as I know, without difficulties. I personally approve each contract for the sale of these elevators before it becomes a valid contract, and I know what the receipts are for them. Receipts for the signal control elevators that have been sold west of the Rocky Mountains are about two million dollars, and the receipts during the same period from 1924 on for other types of elevators sold by the Otis Elevator Company in this territory has been fourteen and fifteen million dollars. (T 98)

The advantages possessed by the signal control elevator which I outlined to Mr. MacFarland and which had been

(Testimony of Raymond W. Charles)

accomplished by the use of the signal control elevator are:

Primarily in the elimination of the human element to as great an extent as possible from the control of the elevators;

The fact that he would receive substantially uniform results from the elevators, regardless of the competency of incompetency of the operators, within reasonable limits;

That owing to the fact that higher speeds could be used with a signal control than were practicable with the manual control, that a given number of elevators had a greater carrying capacity in a given time than the manual control;

That it permitted the use of entirely enclosed cars, which in turn mitigated the sensation of speed to which many early objections were raised when the higher speeds were suggested, because in an entirely enclosed car the effect of speed is not noticeable, as it is where passing objects are visible;

That the physical endurance was not required on the part of an attendant or operator in order to control and operate a signal control type of elevator;

If they wished they could operate them with women, and this has been done since the original installation at the Pacific Telephone & Telegraph Company building;

The elimination of false stops, which are made automatic by the signal control, conserves the equipment, the wear and tear on the equipment, reduces the apparent consumption of operating expense, in consequence;

And the fact that you get uniform service throughout the day from any given group of operators, owing to

(Testimony of Raymond W. Charles)

the less fatiguing operation of the signal control as compared with the manual control. (T 99)

With respect to the convenience of the passengers in stopping the cars, the advantages are:

The stopping of the car level always at the landing materially facilitates the loading and unloading of the car.

The passengers become familiar with the operation and the fact that they are shown that the elevators are level and at the floor facilitates the handling.

The waiting passenger in the signal control actually sets up the means for stopping the elevator without signalling the operator, the operator has no knowledge that a stop is to be made when the stop is initiated from the floor and therefore cannot wilfully or carelessly pass up a passenger.

The buttons in the car are set to automatically initiate the stopping of the car when the passengers enter the car, but can be set at any other time within a reasonable distance before the floor, at which the stop is to be made, has been reached.

With respect to the manually controlled elevators, the records indicate that the accidents usually occur at the entrance, either due to the stumbling hazard of getting in and out, getting to the doors as the doors are closed, or passengers attempting to get in after the doors have started to close or open.

Although I am pretty closely in touch with the operations of the signal control elevators put out by the Otis Elevator Company, I do not know of any such accidents happening since they were put out. A given amount of

(Testimony of Raymond W. Charles)

traffic can be handled by a fewer number of the signal control type of elevator than the manually controlled type.

The signal control type permits the omission of some of the originally contemplated equipment of the manually controlled type to save the space occupied. This feature has accounted to a large extent for making commercially possible some of the large structures on very high-priced real estate, by conserving or reducing the space occupied by elevators, which is non-productive space from a rental standpoint.

With an entirely enclosed elevator door it is not necessary to have entirely flush hatchways because there is no possibility of the passenger coming in contact with the projections in the hatchways. The front of the elevator hatchway may be left rough finish because the passenger never sees out of the elevator while it is in transit.

(T 103)

It was not practical to use entirely closed cars for elevators previous to the use of the signal control system. In the signal control elevators the operator operates the car control switch only in the starting operation. The stopping is entirely initiated by push buttons either at the landing or in the car. This is true with the signal control elevators which the Otis Elevator Company makes.

With respect to trade resistance to this signal control device during the early periods of installation, the owner, purchaser or architect had to be satisfied that we were not offering something that was impractical, that would develop into a source of trouble and annoyance and delay in the operation of the elevator system. We were frequently advised that our competitors said that our sig-

(Testimony of Raymond W. Charles)

nal control elevators in this territory was a clap-trap or unnecessary device; that we were endeavoring to sew up for Otis; that equally good service could be accomplished by manually controlled elevators under proper conditions. (T-104)

(T-105)

One group of five elevators in the Pacific Telephone & Telegraph Company building serves twenty-seven floors. The other serves fourteen floors according to my recollection. During the early stages the additional charge for the signal control elevators over the micro-drive was from four to five thousand dollars per elevator. The average selling price for the signal control elevator was about thirty thousand dollars an elevator.

(T 106)

Fifty-eight of the signal control elevators have been installed in this territory. As to the approximate sale of these signal control elevators by the Otis Elevator Company throughout the country since they were first put out, I have visited New York from time to time and keep myself informed as to the general condition of the company, and have acquired information as to what sales are. Said sales are about thirty-three million dollars.

(T-108)

We make it a point to keep in touch with architects and engineers that are interested in building negotiations to investigate and demonstrate the operation of these plants and I have used my acquaintance to advocate it when we considered it suitable for the building they were contemplating. Architects and contractors generally are familiar with the signal control elevators, especially the

(Testimony of Raymond W. Charles)

architects that are dealing with larger projects. It is quite common knowledge now. They have become familiar with it, partially by observation of elevators of this type in other buildings, and more largely perhaps through our advocating them and seeing that they are informed by personal contact and explanation, and by keeping them supplied with leaflets and publications illustrating it. I take architects and builders to the various jobs that have been installed and show them the installation. All of the leading architects I think, have been shown by actual demonstration the operation of this type of equipment. The reason we show the buildings is that it is more impressive and more convincing to see the simplicity and accuracy of operation than to attempt to describe it.

(T-110)

There is a constantly increasing demand for the signal control. It is being accepted as the best or standard for the very highest type of buildings. This is due primarily to the satisfactory operation and the demonstration by actual installation of the success of the type for the purpose for which it has been installed. "Signal control" was the designation that the Oltis Elevator Company gave to this particular type of control device.

I was quite generally familiar with the various elevators that were being installed over this territory for the last thirty years. Previous to the date of the Parker invention I did not know of any device having been made or sold or installed that would accomplish the results of the Parker device. I did not know of any elevator previous to the Parker invention or signal control device in 1921 in which the elevator could be started only by

(Testimony of Raymond W. Charles)

the operator in the car and automatically stopped at every floor by either pushing a button within the car or pressing a button at the landing. (T-116)

I am familiar with various bulletins put out by the Otis Elevator Company and with that one put out in connection with signal control during 1925.

I am familiar with the document entitled "Sales Engineering Data," Bulletin No. 1, December 1, 1925, Signal Control.

Bulletin marked Plaintiff's Exhibit No. 10 for identification. (T-116)

This bulletin was published December 1, 1925. It was distributed from New York to all the offices of the company for the purpose of disseminating information concerning this particular type of apparatus. (T-118)

It relates to signal control apparatus concerning which I have already testified. The purpose of disseminating this knowledge was to familiarize the officers, heads of the organization, with the operation of signal control elevators, so that they could use it in turn and it was used for generall discussion among those interested, particularly in the commercial end of the industry, to familiarize those that came in contact with the public with it, so that they in turn could pass on the general features that were inherent, and distinctive features of the signal control, and outline them to prospective purchasers.

The information contained in that bulletin was carried to the public by myself and others. Bulletin previously marked for identification offered in evidence as Plaintiff's Exhibit No. 10. (Objection was made to the offer as secondary evidence and self-serving.)

(Testimony of Raymond W. Charles)

These circulars were not handed to the trade in this form. Various pamphlets had been prepared outlining in less detail the functions performed by the signal control elevator that had been passed out to the public. (T-122)

Objection to receipt of the bulletin in evidence sustained. Exception to plaintiff. (T-123)

Offer of proof. (T-124)

Mr. LANE: We offer proof that by the publication dated December 1, 1925, the Otis Elevator Company was representing the following concerning signal control elevators of the type testified to by the witness. (T-125)

"The duties of the operator of a high speed, high rise car switch controlled elevator, in a modern building where quality and quantity of elevator service are demanded, are rather arduous and even the most skillful and conscientious operators have mental and physical limitations which often result in delay in opening doors, forgotten stops, passed floors, unanswered signals, duplicate stops by two or more cars in answering one signal and consequent confusion in answering other signals."

"It is evident, therefore, that the best possible service is to be secured with multi-voltage, self-leveling elevators, so arranged that as many as possible of the normal functions of the operator are accomplished automatically. Signal control was designed to accomplish this result and eliminates all of the delays and imperfections in elevator service attributable with other types of control to inherent defects in the ordinary signal system, and to errors on the part of the operator. It derives its name from the fact that the buttons in the hall, which ordinarily are used to signal the operator, actually control the stopping of the elevator." (T-126)

(Testimony of Raymond W. Charles)

* * * * * * * * * *

(T-126)

"Upon entering the car, each passenger announces the number of the floor to which he wishes to go, and the operator presses the buttons in the car corresponding to these floors. The operator then closes the power-operated door and gate by moving the operating handle to the closed position, and starts the car by moving the handle to the start position. The car then accelerates automatically and proceeds to the first floor for which a button has been pressed, where it automatically comes to a stop level with the floor, and the door and gate open without any action on the part of the operator. When the passengers have been transferred, the operator again closes the door and gate and starts the car as before, and the car travels to the next floor for which a car button has been pressed. If, however, a hall button is pressed at an intermediate landing by a waiting passenger, the car, if going in the proper direction, will automatically stop in the same manner as if a car button had been pressed, and the door and gate will open automatically. This operation is entirely independent of the operator, except when the car is fully loaded—in which event the operator presses a non-stop switch, and the next car not fully loaded, traveling in the desired direction, will automatically signal its approach and stop in response to the passenger's signal. The instant one car starts to stop in response to a hall button, the control is reset so that other cars are unaffected and duplicate stops are entirely eliminated. (T-127)

(Testimony of Raymond W. Charles)

"The approach of the car that will stop in response to the hall button is indicated by an up-down signal light above the elevator entrance, which lights up in advance of the arrival of the car and remains lighted until the car leaves the landing.

"The principal difference between car button operation and hall button operation is that when a car button is pressed it affects only that particular car, and there is no signal light at the floor; while when a hall button is pressed, it affects the first unfilled car approaching in the direction indicated by the hall button, and a signal light indicates the approach of the car.

"Signal control thus accomplishes much more than signal systems commonly used, in that the floor signal and the stopping of the car are both automatically governed by the same hall button and are independent of the operator, as there is no signal in the car. Furthermore, after the operator has pressed a button in the car, the stop is automatic and independent of the operator. The car and hall buttons may be pressed at any time; that is, before the car starts, while it is running, or while a door is open. In either case a stop circuit is set, which is completed at the proper time by the selector machine.

"Equipment: Signal control is adaptable to any elevator equipment that ordinarily would require car switch control, but to date has been applied only to multi-voltage equipment, to which this description relates." (T-128)

(T-128)

The statement just read of the advantages possessed by the signal control and the operation of it are those which I understand the signal control possesses. Ob-

(Testimony of Raymond W. Charles)

jected to as leading and suggestive. Objections sustained. Exception to plaintiff. (T-129)

Offer of proof that the advantages stated on the plaintiff's exhibit for identification and the operation and construction there disclosed is the construction and operation of the Otis Company signal control elevators, as made and sold by them since January, 1924.

I have seen the document issued by the Otis Elevator Company concerning the features and construction of the signal control system, concerning which I have testified. The document is a bulletin, marked Plaintiff's Exhibit No. 10. I have seen publications about the signal control during October of 1925. (T-132)

I have seen the Scientific American, a copy for October, 1925, being stipulated as the Scientific American of October, 1925; and that it was generally distributed throughout the United States in the ordinary course of the publication; and that it contains the article which appears, the photographs and the articles which appear on pages 248 and 249 thereof. Said document offered in evidence as Plaintiff's Exhibit 11: "Scientific American of October, 1925, pages 248 and 249." (T-133)

Objected to as incompetent, irrelevant and immaterial. Objection overruled. Exception. (T-133)

I have read the article and I was familiar with it when it was published. The statements therein are an accurate description of the general operation of what the Otis Elevator Company signal control was. It was an accurate description of the general operation of the equipment, (taken subject to objection sustained and for purpose of record only). We called those publications to

(Testimony of Raymond W. Charles)

the attention of purchasers or prospective purchasers who were interested in the equipment, by giving them copies or calling their attention to copies of it. (T-136)

So far as I know, no one connected with the Otis Elevator Company had anything to do with the publication of that article. The document, marked Plaintiff's Exhibit No. 10-A is a descriptive portion of a proposal form covering the Otis Signal Control Elevator, which was published under date of April, 1926, used by us in presenting the signal control to prospective customers, containing a description of the essential operating features of that type of control. I actually used this myself in showing it to prospective purchasers on any proposals presented at or about that time. The contractors, builders and owners saw this in the ordinary course of sales of signal control devices. (T-137)

The document, plaintiff's Exhibit 10A is a condensed form or information that is more elaborated in the bulletins that are issued from time to time in the description of the apparatus. The document, marked Plaintiff's Exhibit 10 are offered as plaintiff's Exhibit 10. Objection sustained. Exception.

Document marked Plaintiff's Exhibit 10-A received in evidence. (T-137)

CROSS-EXAMINATION,

By MR. L. S. LYON (T-138)

The Otis Elevator Company installed the elevators in the Standard Oil Building at 225 Bush Street, San Francisco. I do not know that I can recall the date. I had something to do with the selling of those elevators to the Standard Oil Company. Those elevators are the manual

(Testimony of Raymond W. Charles)

control micro-drive machines. They were put in quite a little prior to the telephone building negotiations in 1924. I would say it was 1922, but I can't be accurate without referring to documents that would refresh my memory as to the time. (T-139)

They are still in operation and have given thoroughly good satisfaction, so far as I know.

They do not have any signal control on them but do have micro self-levelling devices. I think they operate at 600 feet a minute. The Telephone Building elevators at San Francisco operate at 700 feet a minute. I do not know of any more accidents in the (T-140) Standard Oil Building than there have been in the elevators at the Pacific Telephone Building. We have records showing the approximate cost in dollars and cents of maintaining various kinds of elevators. We maintain contracts for servicing. The amount of cost of the different types of elevators is generally *express* in cost per car mile of travel. I do not know the cost per car mile nor do I know whether the Standard Oil elevators cost any more to run than the Pacific Telephone. (T-144)

In the early installation the repairs, adjustments or corrections amounted to a considerable extent. We have a maintenance contract. We have a man there all the time. I could not tell off-hand what the expense of the service has been to the Otis Company as compared with the expense of servicing the Standard Oil elevators. There were eight Standard Oil elevators.

I do not know off-hand which one of the two had cost the most to maintain in operation, the Standard Oil elevators or the Pacific Telephone. While I do not have

(Testimony of Raymond W. Charles)

specific figures of any particular case, we know the result of stopping and starting, that it produces wear and tear, and the more frequently you have to stop and start and the more times you make a landing the wear and tear on the equipment is bound to be greater. (T-145)

It is difficult to compare the cost of operating the Standard Oil elevators with the Pacific Telephone elevators. They are of a different duty and type. In the Standard Oil elevators the resistance control might go dry, whereas the Pacific Telephone & Telegraph are of the group of multi-voltage type. The Standard Oil elevators have greater load capacity. They are a larger type of machine, as a matter of fact. (T-146)

In either the elevators in the types of the Pacific Telephone Building and the Standard Oil Building, the doors must be closed and locked before the elevator can move, and that is one of the reasons that they are safe. I do not know that I can remember the parties to whose attention I called the Scientific American. (T-147)

Since 1924 the total sales of other types of elevators by the Otis Company was approximately $225,000,000.

I knew of the various types of elevators prior to 1924 which were operated manually by an operator through a car switch and I knew of the various types of elevators which were automatically stopped by the passengers of the ordinary push-button type. I knew of no installation prior to 1924 that required the starting of the car by an attendant within the car and means provided for stopping the car automatically from within the car or from the landing by the passenger himself. (T-149)

(Testimony of Raymond W. Charles)

I am familiar with the patent art only in a most general way, and I do not mean to say that there was no such thing shown in the prior patents. Various persons determine the type of elevator that is going into a building. It may be the architect, the engineer or it may be a combination of the two, or the owner or a combination. Our company has for years made and installed a large proportion of electric elevators that have been installed in the United States. We keep in close touch with the architects who have any promise of handling a big job. (T-150)

Some of the architects objected to the signal control idea when it was presented to them. One of the main things that they would bring up was that it was new; that it was probably complicated and would introduce complications that more than likely would give trouble and require attention; that it must inherently be a complicated device to accomplish all that we stated it would accomplish. (T-150)

It is not a fact that it does complicate the device. As to whether there is any more or less likelihood of the signal control elevator going out of order for any reason than the micro-drive type, our experience would indicate that there is not.

I am familiar only in a most general way with the actual experience that our company had in the installation at 26 Broadway regarding giving service to keep the elevators in operation. We had some difficulty with it. That was the first installation. The difficulty was caused mainly by the door operating devices. The building at 26 Broadway is the Standard Oil Building in New York.

(Testimony of Raymond W. Charles)

The main difficulty was with the door closing. It did not have anything to do with the signal control. Naturally it interfered with the proper operation of the elevator, because the door mechanism would not function properly and gave difficulty from time to time.

The impression I have is that the equipment was not designed for the continuous and intensive service that was imposed upon it and that it was inadequate to stand up under the service. I think that it was improperly designed in that it was not sufficiently sturdy construction.

I am not an elevator or control engineer myself and could not attempt to describe the hook-ups of the circuits of the Standard Oil Building at 26 Broadway. The floor selector in that building was a vertical type operated by a vertical screw with a traveling crosshead and trailing fingers, like we have used on all our signal controls. It was the same general type as that put in the Pacific Telephone Building, but I do not know whether it was the same or not. (T-154)

The micro-cams in the Standard Oil Building were located in the hatchway. It is not true that all of the signal control elevators that our company has installed had them so located. With the later installations, the leveling cams or the leveling devices are in the pent-house. The reason for making that change is its simplicity of design and it facilitates the installation of the apparatus.

I am not sure that I know the engineering reason. The leveling does not have anything to do with the signal control directly. I do not know whether they are or not. (T-158)

(Testimony of Raymond W. Charles)

I have not seen any of these signal control devices without a micro-leveling feature. We have used the signal control mainly on high-speed elevators, and it is not a practical thing to stop a high-speed elevator unless it is stopped accurately at the floor. Six hundred feet would be considered a high speed elevator. We could get along without the micro-leveling in a high-speed elevator up to certain limits. About 600 feet is the practical limit.

It is possible to operate elevators at a higher speed without the micro, but not economical or satisfactory. By putting in the micro-leveling, it is possible to increase the speed of the elevators but it is not a practical thing in manual operation.

By closed elevators I mean elevators that have doors that close. Solid panel doors in the elevator itself.

(T-160)

In my experience prior to 1924 I did not know of any elevators that had an arrangement with both doors in the floor and in the car solid panel doors—that you could see through. I do not think I ever saw any apartment house elevators of that type.

The Standard Oil elevators in San Francisco have doors with glass panels that you can see through. The glass panel is practically the full size of the door with the exception of the necessary door frame. I would not say that it was one of the fundamental advantages of the Otis Signal control elevator that the car doors had no windows in them. It is one of the incidental advantages. It is not important in the safety or satisfactory operation of the elevator. It reduces the sensation of

(Testimony of Raymond W. Charles)

speed to the passengers from the fact that they do not view the objects they are passing, and it also effects economy in construction by permitting the inside of the hatchway to be left in an unfinished or rough condition. (T-163)

Some of the signal control elevators that are being put out have windows in the car doors.

I base my statement that more traffic can be handled by a signal control elevator than can be handled by a manual control elevator on the result of data that has been prepared, based on various tests that have been made by our Engineering department. I suppose I could dig up the data; I do not have it here nor do I know of my own knowledge that it is correct.

We have made no installations on the Pacific Coast of the signal control elevator where there was only one single elevator.

In the signal control type of elevator the passenger at the floor, by pressing a hall button, stops the first car that comes by in the direction indicated by the signal. If the same number of units are considered, signal control elevators do not occupy less space than manual control elevators of approximately similar duty. I think that a car could be equipped with micro-leveling and an operator's flash signal which is illuminated when the car approaches a floor on which a passenger is waiting and tell the operator to stop, and use that completely enclosed cab or car. I cannot describe the actual construction of the parts and apparatus employed in the Pacific Telephone Building job or the circuit hook-up. (T-165)

(Testimony of Raymond W. Charles)

The cars in the Pacific Telephone installation were operating on signal control during the temporary service period by the Telephone Company. There were a number of cars operating prior to that time, however, on manual control for building purposes and temporary use of the building.

The cars were operated on signal control for public use the middle of the year 1925. I could not give the exact date.

One of the advantages of the signal control is that the elevator operator cannot pass a passenger at a floor.

We have a system or means in the signal control so that an operator can do that. It is a by-pass switch or non-stop switch; but my statement referred to the normal operation of the elevator. It is an important feature of the signal control elevators made by the Otis Company that they can be started only from within the car. (T-166)

Signal control elevators cannot be controlled from the outside in the normal control system, but it is possible to move it from the pent-house.

You could not get the passengers out of the car if it stuck or anything was the matter with it between floors. You would have to have means for repairs and other purposes. Means in an elevator system for starting the cars somewhere besides in the car are available in any type of system. We do not have to have it with the signal control more than any other type. We will put it in the signal control system. It is desirable to be able to move an elevator in a hatchway for emergency purposes from outside of the car. (T-168)

FURTHER EXAMINATION,

BY MR. LANE:

The auxiliary arrangement for emergency purposes is never used in the normal operation of the car. (T-168)

(Testimony of Humphrey Francis Parker)

VOLUME 2.

HUMPHREY FRANCIS PARKER,

called as a witness on behalf of the plaintiff, being first duly sworn, testified as follows: T. 172

DIRECT EXAMINATION

By MR. LANE.

My name is Humphrey Francis Parker. I reside at South Bend, Indiana, age thirty-five, and am a citizen of New Zealand. I am engaged in engineering research work at South Bend. I am the patentee of the Parker patent No. 1,506,380, August 26, 1924, and of the reissue of the patent No. 16,297, March 23, 1926.

As to what led up to the invention, I realized that elevators existing at that time were not entirely satisfactory. Referring to the objections that were prevalent, the operator frequently went by the floor where you wished to stop, and you had to repeat the number and the operator came back. That caused delay. Also when waiting for a car at a floor landing after pressing a button, the cars went by and it was annoying to have to press the button again, and perhaps even see a second car go by.

I came from New Zealand to this country in July, 1920. I had ridden in numerous elevators in different cities, such as New York, London, and also in New Zealand, and I had frequently observed these conditions. I was in Detroit in July, 1920, and stopped at the Tuller Hotel. While I was there the service seemed particularly bad. The operators frequently passed the floors I wanted

(Testimony of Humphrey Francis Parker)

to get out at and frequently failed to stop at the floor when I was waiting for a car.

These observations caused me to realize that there was necessity for these conditions to be corrected, and I proceeded to try to find some way of doing it. My thought along that line resulted in a system of control which would eliminate the errors I had experienced.

I realized the necessity of high speed elevators, of having someone definitely in charge of the car, and yet if the car were to stop at the wish of the passenger, it was desirable to have automatic means to do that. T. 175

The car was to be stopped by a push button on the landings and also in the car. I wanted to place a manual control with the operator, who is always present in the car, and to provide automatic means for the passengers to use on the floor landings or for the operator to use in the car. I considered it essential for the safety of the passengers to have the means for starting the car entirely within the control of the operator. It was necessary to have the cars automatically stop by a control button initiated in the cars to eliminate the human element on the part of the operator.

It was also necessary to have the push buttons at the landings which initiated the automatic stoppings at the floor to eliminate the human element,—forgetfulness or laziness on the part of the operator. T. 176

Having devised the scheme, I laid it out in the way of drawings which I sent to an attorney in Newark, N. J., and asked him as to his opinion as to their patentability. The attorney's name was George D. Richards, whom I visited late in October, 1920, when I described to him the essentials I had in mind.

(Testimony of Humphrey Francis Parker)

I told him I wanted to perfect manual control at the starting, under the control of the operator, and automatic stopping provided within the car and on the floor landings. I showed him my mechanism by which that was to be accomplished.

The witness was asked whether a search was made at the Patent Office and what advice he received from his attorney based on that search. This was objected to as incompetent and the objection was sustained. An answer was taken, subject to this ruling, at the request of the plaintiff, that a search was made and that the attorney advised him that he had a clear field. I submitted further material to him, and in due course an application was prepared and filed. The drawings that were submitted to the Patent Office by my attorney in the original application are the same drawings as appear in the printed patent. At the time of filing these papers by my attorney at the Patent Office, I had seen some of the Otis Elevator Company's various types of installations. T. 180

I am familiar with them in a general way. I had seen the Otis Elevator Company's name on elevators in many places. My first contact with them was in January, 1922. T. 181

When I called at the office of the Otis Elevator Company in New York, I saw Mr. Lindquist. I called to submit to him this invention and explained to him the invention, and he stated he would give the matter consideration. I left a copy of the application as filed and the drawings that accompanied it. I understood Mr. Lindquist was the Chief Engineer of the Otis Elevator Company. T. 182

(Testimony of Humphrey Francis Parker)

My purpose in seeing him was to interest him in the invention, with the object of having it taken up and put into use by the Otis Elevator Company.

In May of 1922, following my interview with Mr. Lindquist, I went to England, where I was engaged in development work on airships for fifteen months. While I was in Europe, I wrote Mr. Lindquist about the invention which I had previously presented to him. The letter dated July 15, 1922, marked Plaintiff's Exhibit 12 for identification, is one I wrote to Mr. Lindquist in July, 1922. I sent it to him in the ordinary course of the mails. By that time the matter had been in Mr. Lindquist's hands for some six months, and I thought it possible he had reached a decision.

Said letter offered and received in evidence as Plaintiff's Exhibit 12, which said letter is made a part of the record as follows: T. 185

"c/o Bank of New South Wales,
29 Threadneedle Street,
LONDON, E. C. 2 ENGLAND
15th. July, 1922.

The Otis Elevator Co.
11th Avenue and 27th St.
New York City, U. S. A.

Attention Mr. Lindquist.

Dear Sirs:

Some six months ago I submitted for your consideration a patent dealing with elevator control. Early in May, just prior to my departure from the United States, I was informed by your Mr. Lindquist that the matter was receiving consideration, but that no definite decision

(Testimony of Humphrey Francis Parker)

had then been reached. May I ask if you have come to a conclusion yet? I should be glad if you would let me know the present status of the matter.

Yours faithfully,

(Signed) Humphrey F. Parker.

(Stamped: Otis Elevator Company
Patent Dept.
Dec 15 1925
Noted WEB"

About thirteen months after I wrote this letter, I returned to the United States. Upon returning, I first went to Washington on airship work for the United States Navy. I worked for the Navy until November, 1925. The next time I took this question of the invention or purchase of the invention of the patent up with the Otis Elevator Company was in September, 1925, when I called at the office of the Otis Elevator Company in New York when I saw Mr. Engel. T. 187

I asked him if anything further had been done in the matter of this patent which I had submitted to him some two or three years before. I continued negotiations with the Otis Elevator Company because they were the largest operators in the field, and for my purpose the most suitable to deal with, so that I followed up the negotiations from the start until the time the transaction was consummated. T. 188

I was asked to call again in a few days and was told the matter was of some interest to them, and a further interview was arranged in Philadelphia, where I was then stationed for the Navy. Mr. Bradley, representing the Otis Elevator Company, saw me at the interview in

(Testimony of Humphrey Francis Parker)

Philadelphia, and on that occasion the purchase of the patent was discussed and an agreement reached. The transaction was consummated in the way I have indicated on November 12th in Philadelphia, and that resulted in the assignment of the patent to the Otis Elevator Company.

Mr. Bradley pointed out that there seemed to be a good invention there, but that the claims did not fully describe the invention, and he suggested that the patent be reissued. He asked me what my invention was as I conceived it, and I stated to him that the invention consisted essentially in the manual starting of the elevator by means within the single control of an operator, and the automatic stopping of the elevator by means located on the floor landings and also within the car. I discussed my invention somewhat in detail with him. T. 190

Mr. Bradley pointed out that the claims as allowed did not cover what I considered to be my invention, and he explained that the procedure concerning the way in which claims were drawn in the United States was quite different from that in other countries. I had not been familiar with the construction or interpretation of United States patents previous to coming to this country. I relied upon my attorney in connection with the preparation of the original patent, and I was not sufficiently advised to give him any help in the preparation of the claims, and did not give him any help in the preparation of the claims.

I instructed my attorney to secure the issue of the patent, and at the proper time sent him a check for the final fee. A few months afterwards having heard

(Testimony of Humphrey Francis Parker)

nothing from him, I asked him about it, and I then found he had neglected to pay the fee and had neglected to obtain the issue of the patent. He explained that this was through an oversight in his office, and proceeded to rectify it.

I first heard of the Llewellyn Iron Works or the Pacific Finance Corporation about two weeks ago. T. 191

I first saw elevators made or used by either of them on last Monday, April 1st, and two weeks ago I first heard of any elevators being made by the Llewellyn Iron Works and being used by the Pacific Finance Corporation. T. 193

I first saw one of the Otis Elevator Company's signal control elevators in January, 1927, in either the French or Graybar Building in New York. That Otis elevator had manual starting control, stop buttons within the car and stop buttons on the landings. I saw the car operated and rode in it. When the passengers called for their floors, the operator pressed the buttons in response to their calls. He then closed the doors, started the car in motion by moving the control lever located within the car. He then returned the control lever to neutral, to its vertical position, and did nothing more. The car came to a stop automatically at the first of the floors called for.

The operator then moved the lever over again and restarted the car in operation. The car did not stop at any floor for which a button had not been pushed by the car operator. T. 194

I observed the operation of the push buttons in the hall. While in the car I called for a floor at random and

(Testimony of Raymond W. Charles)

got out, and then in a few moments pressed a button and the car stopped for me. I also saw the signal control elevators of the Otis Company in the Fisher Building, in Detroit, and in the Palmer House, in Chicago. I am not sure that I saw one in the Fisher Building of the signal control type. T. 197

I have a large sized enlargement of the Parker re-issue patent drawings with me which I have colored for the purpose of showing the circuits. The drawing is an exact replica, except for size, of the patent drawings.

CROSS-EXAMINATION

of

RAYMOND W. CHARLES

RESUMED.

By Mr. L. S. Lyon. (T-200)

The Otis Elevator Company has installed one of our signal control systems in the elevators of the Hunter-Dulin Building in San Francisco. They have been in operation about two years. There has been no accident of any consequence in that equipment. There has not been any that I know of. In most all of the installations there are shut-downs. There was an accident there quite recently. The loosening of the fastening of the counter-weight rails permitted the counter-weights to spring out from the wall and strike the car as the car came down. That is the only accident that I know of or have any knowledge of.

I think I would have known of any others if they had been of any consequence. I do not know of anything

(Testimony of Raymond W. Charles)

occurring in the operation of the system so that it took quite a period of time to get the passengers out of the car.

It frequently happens in new installations, particularly when it is being tuned up, that a heavily loaded car is apt to run by its limits. That may have happened there, but I do not know.

I have no records as to the cost of service or maintenance or operation of the Hunter-Dulin Building.

(T-202)

Our company has installed the signal control in the Tribune Tower in Chicago. I am not aware of any accident there, or whether a passenger was killed in that equipment. I would not say that there has not been any accident there; I am not aware of it. There are ten hatchways provided in the Pacific Telephone & Telegraph Building in San Francisco. I think there is one vacant hatchway. (T-202)

I have a distinct impression that there is a vacant hatchway in which it is the intention to install another elevator when and if they add an additional wing, which is provided for in the plans. For the present service that is required in the building, I think the same number of manually controlled elevators were called for in the specifications as the signal control. I think that the signal control elevators are just as many as were contemplated in the case of the manual control. Off-hand I do not know how many passengers per car mile are handled comparatively in the Pacific Telephone Company in San Francisco and in the Standard Oil Building in San Francisco.

(T-203)

(Testimony of Raymond W. Charles)

The Otis Elevator Company has installed high- (T-204) speed elevators without using signal control, and some of them are in service. I think some of them are self-leveling. To the best of my knowledge, all of them are self-leveling.

It is desirable for high-speed operation to employ a self-leveling mechanism. It adds materially to the efficiency of handling and the possibility of handling the cars by manual operation at those speeds. As to the difference between signal control and self-leveling, a signal control is a control system that is added, may be added to a self-leveling elevator or one that is non-self-leveling. It has no immediate tie-in to the self-leveling feature. The self-leveling can be used without the signal control. The highest speed elevator that I know of that is in operation without signal control is 700 feet per minute. The accurate leveling with the hall platform is not a part of the signal control; it is a part of the automatic micro-drive mechanism. The accurate landing can be accomplished without the use of signal control by the same method. (T-305)

I do not think that the cars in the Pacific Telephone Building stop any more accurately at the floor than those in the Standard Oil Building. The Standard Oil installation in San Francisco has self-leveling type, but does not have the signal control. I would not say that I am in a position to state that I know that the signal control systems or equipment of the company are handling more people per car mile than any other system that is in practical use today. (T-206)

(Testimony of Raymond W. Charles)

I think there was some trouble in connection with the installation in the Pacific Telephone Building with false operation of the signal lights. The safety of these elevators depends primarily on the door controls. That is true of any door with interlocking mechanism. The cars cannot start unless the door is closed. I think with the automatic leveling device the doors are permitted to open during the leveling while it is within the micro-zone. That is in the zone when the car can move only toward the landing and not away from it and when the running speed of the car is eliminated. (T-209)

Before the car can start the doors must be closed. That is the feature that determines really the safety of the equipment so far as the entrance and exit of passengers while the car is moving is concerned.

It is my understanding that the difficulty in the installation at 26 Broadway, New York, was entirely with the pneumatic door-operating devices that were installed on some of the elevators, due to the failure of the mechanical structure of the device. (T-210)

I am not sufficiently informed that I want to state that there was no other difficulty. I am not sufficiently informed to give you a detailed description of how the signal control system is constructed and how it operates to perform these functions. The means employed in the Hunter-Dulin Building and the way those means operate to perform the functions of the signal control are substantially the same as the Pacific Telephone & Telegraph Company Building in San Francisco. I mean by "substantially the same" that the results obtained so far as the observer is concerned are similar. I mean by the term

(Testimony of Raymond W. Charles)

"results", the functioning of the elevator so far as its operation is concerned.

I could not say whether the details of the controlling mechanism, etc. are identical or not, nor do I know whether mechanism installed at 26 Broadway, New York, for performing these functions is the same as that in the Pacific Telephone Building in San Francisco. I know that the resultant scheme of operation is the same. (T-211)

Q BY MR. L. S. LYON: Do you know whether or not the means of performing those functions are the same or not in the two installations?

A As to the detail of the controlling mechanism and so forth?

Q Yes.

A I couldn't say whether they are identical or not.

Q Do you know as to the 26 Broadway Installation, whether the means employed there for performing these functions is the same as that in the Pacific Telephone Building in San Francisco?

A I do not know whether they are identical, no: I couldn't say.

Q Do you know wherein they are the same?

A I know, just as I stated in connection with the Hunter-Dulin Building, the resultant scheme of operation is the same.

Q I am not asking about the results or the functions performed, but I am asking about what performs those functions and how it does it. Do you know whether that is the same in the Standard Oil Building as in the Pacific Telephone Building?

A I do not, no. (T-211)

(Testimony of Raymond W. Charles)

RE-DIRECT EXAMINATION

BY MR. LANE. (T-212)

The signal control elevators may be operated as a group or any one or any number of a group may be cut off. The remaining elevators are operated on the signal control basis where they are cut down to one which is usually done for night, Sunday or off-hour service, where a single elevator is kept in service and then functions as a signal control elevator on the signal control.

When we have cut out all but one elevator, on the passenger entering the car, the operator or the attendant starts the car, having pressed the button in the car for the floor indicated by the intending passenger. He starts the car with the control lever in the car, and having pressed a button corresponding to the floor which has been called for, when the elevator arrives at that floor, it automatically stops, levels, and the door opens. But should a waiting passenger on one of the floors press a button the car stops automatically at that floor, and it levels, and the door opens, and the passenger enters. that function being performed without the notice of the attendant. (T. 213)

When we have a bank of elevators, the usual method of cutting off all but one for night service is to cut out the motor generator set driving that particular elevator or elevators. The cutting out of the motor generator set does not in any wise affect the signal control operation of the one that is left. (T. 214)

I think it is universal to cut out all but one of the bank of elevators in large buildings when they use one elevator

(Testimony of Raymond W. Charles)

at night. When they have cut out the signal control operation of the elevators, the one that is left in operation is not affected in any way. (T-214)

The Otis Elevator Company and its predecessors have been selling elevators in California for thirty years or more. The Otis Elevator Company in California has about five hundred employes having to do with the installation and maintenance, construction of elevator mechanisms, having more or less to do with the signal control systems. To the best of my belief, the American Bell Telephone Company and its affiliated companies have installed signal control equipment in all of their main district office buildings that have been erected since 1925. I should think about 100 such units have been installed by the American Telephone & Telegraph Company. (T-216)

The document marked Plaintiff's Exhibit 13 is an outside cover of a list brought up to February 1, 1929, of the buildings, indicating also the number of elevators installed in each, in which signal control elevators have been installed or contracted to be installed by the Otis Elevator Company. The illustrations inside are wash drawings or reproductions of drawings or photographs showing a considerable number of the buildings in which Otis signal control elevators have been installed, and indicating on each of them the number of elevators installed in them. (T-218)

This document is published by the Otis Elevator Company, by our headquarters in New York, and distributed to all of our offices for the information both of our own organization and it is also passed out to the public, to any

(Testimony of Humphrey F. Parker)

one that is interested, to indicate the extent to which this equipment is used and the character of the buildings in which it is used.

It is one of the means that is being used by the Otis Elevator Company in demonstrating the practicability and utility of the signal control system. Said document offered in evidence, Plaintiff's Exhibit 13. Objected to as incompetent and no foundation whatever. Received in evidence. (T-221)

HUMPHREY F. PARKER

Direct Examination

Resumed By Mr. Lane (T-221)

Referring to the drawings and the circuits, the colored lines show the circuits over which current flows when they are properly closed. The lines marked red refer to the manual starting circuits. The purple lines refer to the motor circuits. The blue lines refer to the current that can flow upon the closing of an up-car button. I put the coloring on the drawings.

"The green lines show the circuit over (T-222) which current can flow on the closing of the selector circuits. The brown line refers to the up-floor-button circuit. Starting from the positive line, indicated by 12, the line 14 is live, and current can reach the point 10. It cannot get beyond the point 10 until the gap 10-11 is closed. This is closed manually within the car. Upon that gap being closed, current can flow along the line 15, up to the solenoid 16, and can then reach the negative line 13.

(Testimony of Humphrey F. Parker)

"Through a continuation of the line 15, to the negative main 13. That completes the circuit from the positive main to the negative main, and energizes the solenoid 16. That solenoid, on being energized, pulls in the core 22, which causes the knife 20 to come in contact with 23, and also the knife 21 to contact with the post 24. On those two gaps being closed, current can flow from the positive main 12, by the line 25, through the post 23, through the knife 20, through the post 18, by the line 27, to the motor 17, and from the motor 17 by the line 28, post 19, knife 21, post 24, line 26, to the negative main 13. On this purple circuit being closed, current flows through the motor and starts the car in operation. The car continues in operation until the current through the line 15 and the solenoid 16 is interrupted. Means are provided for holding that circuit closed.

"Going back now to the point 11, current has reached there from the line 12, from the main line 12, by 14, over the gap 10-11, and can flow through the coil 32, through the wire 33 to the main 13. There is thus another complete circuit to the negative wire 13. A circuit is therefore completed through the solenoid 32. That solenoid holds the circuit through the solenoid 16 closed. So long as that solenoid remains energized, the car continues in operation." (T. 223)

Nothing further can happen until further gaps are closed; that is, the car will not stop. The car will continue in operation until further gaps are closed.

Suppose now that the third-floor button within the car be pressed. That will bring the knife b-3 into engage-

(Testimony of Humphrey F. Parker)

ment with the post d-3. That now permits current to flow from the point 11, by the line 35, to the post d-3, to the knife b-3, post c-3, and over the blue line h-3, to the stud f-3. It is there stopped by the gap between the stud f-3 and the ring g. The selector arm 34 closes this gap upon the car approaching the third floor. With the selector arm 34 over the point f-3, current can flow over that arm to the ring g, and then over the line 36, the green line 36, to the coil 37, and back to the negative line 13. A circuit is then completed over the green line, the blue line, and the red line, and the coil 37 is energized. The energizing of coil 37 stops the flow of current to the solenoid 16. On current to 16 being stopped, the main meter switch is broken, the main motor circuit is broken, and the flow of current to the motor is therefore stopped. In consequence the motor stops and the car comes to a rest.

(T. 223)

The Master asked whether the gap was closed by the manually operated switch, and when that is closed whether that energizes the solenoid. The Master then asked the witness to explain the inter-relation between the two solenoids 37 and 19. The witness continued:

32 and 37 are two separate coils. They are shown upon the same spool. They can be built either on two separate spools or they can both be wound on a single spool. (T. 225)

"Going back now to the point 11, current has reached there from the line 12, from the main line 12, by 14, over the gap 10-11, and can flow through the coil 32, through the wire 33, to the main 13. There is thus another complete circuit." (T-223)

(Testimony of Humphrey F. Parker)

Nothing further can happen until gaps are closed; that is, the car will not stop. The car will continue in operation until further gaps are closed.

"Suppose now that the third-floor button within the car be pressed. That will bring the knife b-3 into engagement with the post d-3. That now permits current to flow from the point 11, by the line 35, to the post d-3, to the knife b-3, post c-3, and over the blue line h-3, to the stud f-3. It is there stopped by the gap between the stud f-3 and the ring g. The selector arm 34 closes this gap upon the car approaching the third floor. With the selecetor arm 34 over the point f-3, current can flow over that arm to the ring g, and then over the line 36, the green line 36, to the coil 37, and back to the negative line 13. A circuit is then completed over the green line, the blue line, and the red line, and the coil 37 is energized. The energizing of coil 37 stops the flow of current to the solenoid 16. On current to 16 being stopped, the main meter switch is broken, the main motor circuit is broken, and the flow of current to the motor is therefore stopped. In consequence the motor stops and the car comes to rest."

(T-223)

The Master asked whether the gap was closed by the manually operated switch, and when that is closed whether that energizes the solenoid. The Master then asked the witness to explain the inter-relation between the two solenoids 37 and 19. The witness continued:

"32 and 37 are two separate coils. They are shown upon the same spool. They can be built either on two separate spools or they can both be wound on a single spool."

(T-225)

(Testimony of Humphrey F. Parker)

In general the effect is that when the circuit is completed between the points 10 and 11, so that the current flows from the positive to the negative side of the power line, the circuit is held closed by the solenoid 32, and when the selector has operated to cause the power to be cut off, the solenoid 37 causes the coil 32 to be de-energized, and therefore the contact broken, so that the power to the motor is released. (T-226)

The coil 37 neutralizes the effect of the coil 32. When you have de-energized the coil 32 through the operation of the coil 37 there is no power going through the main power line because the contacts have been opened up, and therefore the motor is caused to stop. (T-228)

The Master—As a matter of fact, after this circuit has been closed, the green circuit has been closed by your—what do you call that 34—the selector arm 34 comes in contact with, say, the button f-3, there is no current flowing in any of these circuits, in either the purple circuit or the red circuit, and only momentarily through the green circuit; is that the situation?

A—there is a momentary flow of current through the green circuit and through the coil 37. Thereafter all circuits are broken.

THE MASTER—The momentary flow of current through the green circuit breaks the red circuit, which in turn breaks the purple circuit, and nothing is happening then?

A—Yes that is true.

Explaining the operation of stopping when you push the floor up push buttons on the second floor, the gap between j-2 and k-2 is closed. Circuit can then flow

(Testimony of Humphrey F. Parker)

from the negative line 13, by the wire n-2, to the post k-2, blade j-2, post l-2, wire o-2, to the post p-2, by the blade b-2, post c-2, wire h-2, to stud f-2. On the selector arm 34 coming in contact with stud f-2, current can flow over the line 36, and through the coil 37, back to the line 13. I believe I made a mistake in starting that. The current starts from the positive main 12.

THE MASTER: I think you started with—

A The current flows from the positive side through the negative side.

THE MASTER: Now, you have used two different floors. You used the third floor for the car button and the second floor for the floor button. Now, am I correct in this, that, assuming that the third-floor button were pressed, that after the current reached the post here, which is p-3, that it would follow the same circuit, the circuit from that point on is the same as is closed when the car button is pressed?

A From that point on the circuit is the same.

THE MASTER: The circuit is the same from that point on?

A From the point c-3

THE MASTER: That is, the floor button and the switch connected with the floor are cut into this circuit, the car button circuit, is that correct?

A Yes.

Q And it operates through the same selector system?

A Yes.

If a button had been pushed in the car for the same floor as the button was pushed at the landing, the current would flow due to the pushing of the button in the car,

(Testimony of Humphrey F. Parker)

and the button at the landing would have no further effect. The enlarger drawing from the Parker Reissue patent No. 16,294, marked Plaintiff's Exhibit No. 14. (T-230)

If any one of the hall buttons has been pressed for a given floor and corresponding buttons have been pressed for any floor in the car, the car will stop at the floor desired. (T-231)

Referring to the enlarged drawing, the construction operates for the down direction in exactly the same manner as for the up direction, and is indicated in the drawings by lines which are indicated by prime characters instead of plain. The same numerals apply to the various parts throughout except that they are prime numbers. The large drawing offered in evidence, Plaintiff's Exhibit No. 14. (T-232)

CROSS-EXAMINATION

by MR. L. S. LYON. (T-232)

The witness was asked to trace through the patent diagram, using Plaintiff's Exhibit 14, the circuits that enter into the operation of stopping the car from the down hall button and continued—

I will take number 3. Current from the positive line 12 enters by line 3 and flows through the post j-3′, across the gap j-3′ to l-3′, down the post l-3′, along the line o-3′, to the post p-3′, along arm b-3′, down post c-3′, and along the wire h-3′ to the point f-3′. Upon the car approaching that floor the selector arm 34 comes in contact with point f-3′ and bridges the gap between f-3′, and g′, along 36′ to the coil 37′, and by line 38′ to the negative side of the line 13, completing the circuit.

(Testimony of Humphrey F. Parker)

The diagram or reproduction of the patent diagram, which was colored by the witness in answer to the last question, is offered in evidence as defendant's Exhibit A. The Circuit from the hall button as in defendant's Exhibit A passes through a car button switch and from there to the contact on the floor selector drum. That is one way of making it operate.

The reason I pass the circuit from the hall button through the car button was, I thought, to find one effective way of doing it, and I did it that way because it was an arrangement which achieved what I sought to achieve, and which effected the stopping at the desired floor level, whether the button was pressed in the car or on the landing or whether both were pressed.

As to whether that is the only reason, it is now eight years since I originally worked this out, and I do not recall. At the time the application was filed in the Patent Office, April 25, 1921, I had not built a structure and had made no test of the arrangement that was shown in the diagram.

As to whether the arrangement is operative, I will say from accepted electrical information I believe it to be operative. (T-234)

I have not personally tested this particular arrangement. I believe similar constructions to be operative. I have not personally tested the construction shown in the patent diagram, so I cannot say positively that it is operative. I do not have the drawing or drawings that were sent to the attorney for the preparation of the patent application. I have not made any attempt to secure those for the purpose of this testimony. (T-235)

(Testimony of Humphrey F. Parker)

When I mentioned showing the patent attorney mechanism I meant that I showed him the drawings referred to. I did not actually show him any structure. After the search, I submitted further explanatory sketches and descriptions to him. I cannot produce those and have made no attempt to secure the same. When I prepared the patent application or when the idea came to me in 1920, I was familiar with the ordinary hand lever type of manually controlled electric elevator. (T-236)

I was only familiar with the circuits from what you could see riding in the car and had never made any study of the elevators. I had seen a push button control elevator in New Zealand. It was on a building of about four stories, and had buttons in the car and on the landings. On pressing a button on the landing, the car would come to you after the doors were closed automatically and would stop at the floor that corresponded to the button that was pressed. The buttons in the car would carry the car to the floor to which you would desire to go and stop the car automatically.

I did not study the mechanism or the operation of the mechanism by which that was accomplished in that elevator. (T-237)

I had a second meeting with Mr. Lindquist before I left for England. I fix the date of the first meeting the second week of January, 1922. That was when I saw him. I do not recall the exact date of the second meeting but as nearly as I can recall it was April 1922. Those were the only two meetings I had with the Otis Company before leaving for England. Nobody was present at those meetings between myself and Mr. Lindquist.

(Testimony of Humphrey F. Parker)

I stated in substance on my direct examination all that I can remember of what I told Mr. Lindquist. Mr. Lindquist indicated that the Otis Elevator Company might be interested in it. The gist of the second meeting was that no decision had yet been reached. That was the only communication with the Otis Elevator Company until my return to the United States, except the letter of July 15, 1922. I did not receive any reply to that letter.

(T-238)

I returned to the United States in August, 1923, and from that date until September, 1925, I did not attempt to approach the Otis Company, and they did not attempt to approach me. During that time the matter was open for negotiation, but no written agreement had been signed at that time and there was no oral agreement made authorizing the Otis Company to employ any idea that belonged to me. I first learned that they had made an installation at 26 Broadway, New York, in November, 1925. I do not know anything about it or have any part in it until that time, and the matter was again opened up on my calling at the office of Mr. Engel in September, 1925, and Mr. Engel undertook to find out if they had reached any opinion on the matter. I called again at the Otis Company and saw Mr. Bradley. Mr. Bradley indicated that The Otis Elevator Company might be interested in the patent and he stated that he would get in touch with me. The next thing that transpired was when he came to see me in Philadelphia. He asked me to call at the office of the Otis Elevator Company.

As far as I can recall only Mr. Bradley was present at the meeting, and he indicated that the Otis Company were

(Testimony of Humphrey F. Parker)

interested in the patent. I suggested terms for the purchase of the patent, and he met those partially. I asked five thousand dollars for this invention and he agreed to pay me two thousand dollars. That was for my entire right to the invention, and I sold him the original patent. At the time I signed the assignment, he told me that he wanted to apply for a reissue of the patent. He said that the claims did not fully cover my invention. It was first suggested to me that there should be a reissue of the patent November 12, 1925. Up to that time I thought that the patent fully protected the invention, but had never given any consideration to it. I have done nothing personally with the invention up to those calls on the Otis Company. I have not endeavored to do anything through any one else. I was busily occupied at the time and intended to take it up as soon as I had an opportunity.

(T-243)

I had no intention of letting the matter go, but I did nothing with it during those two years. I was working on some other invention. From the time I applied for this patent in 1921 to the time I sold it to the Otis people I applied for three British patents and one United States Patent. I applied for the United States patent through the same attorney that I had used in this case.

I first saw the original patent covering this elevator control late in 1924. I read it over and it impressed me as covering everything that I had intended to cover by the application. I had asked the attorney to protect any legal interests I might have in that matter, and the attorney told me that the patent covered my invention. (T-247)

(Testimony of Humphrey F. Parker)

Previous to the time I sold the original patent to the Otis Elevator Company I had offered it to the A. B. See Company, an Elevator company in New York. I did not offer it to any one else. I brought the matter to their attention in September, 1925, and they were not interested. I saw Mr. See, Jr. there.

The Otis Elevator Company pointed out to me that the patent did not cover my invention. We did not go into the matter in detail. They said the claims did not cover the invention. I know nothing whatever about claims, and so it was not explained. They did not say that the claims were too broad. I do not recall whether they said that they were too narrow, but they said that they did not cover it.

The Otis Company initiated and undertook the reissue for me, and at the time I signed the application for the reissue they owned all the rights of the invention, and I never took any further part in connection with the application for reissue.

I read over the application for reissue. I could see that the claims were very different from the claims in the original patent. We did not go into details. The claims covered the same subject-matter but they were worded quite differently. I thought they covered the same thing. As to when any different or additional drawings were submitted to the Patent Office with the original application, it was an exact copy of the original.

If Otis ever filed any other drawings in the application, I never saw them.

The witness was shown a certified copy of the proceedings in the Patent Office in connection with the reissue

(Testimony of Humphrey F. Parker)

application and his attention called to a straight wiring diagram which follows in the file a letter of November 16, 1925, of the Otis Elevator Company. The witness stated that he had some recollection of seeing something like this and what I saw I saw at the time of the application. I have a recollection of seeing a drawing like that. I cannot say positively that it was this drawing. I saw the drawing that was like this November 12, 1925. (T-253)

I recall seeing a diagram of this nature at that period. It must have been Mr. Bradley who had it. I had sold the patent and I was not then interested. I did not trace the circuits. Certified copy of the file wrapper of the reissue application offered in evidence as Defendant's Exhibit B, and the particular diagram of the witness referred to follows the letter of November 16, 1925, and bears the legend "Straight Wiring Diagram, Patent 1,506,380, October 20, 1925," filed October 20, 1925, received in evidence as defendant's Exhibit B. (T-254

If the device is constructed in accordance with the drawings of the patent, an up car passing the third floor may or may not stop if the down third floor hall button has been pushed depending on the mechanism used there. If constructed in accordance with this diagram (referring to the selector) plus common knowledge of the art, the car need not stop. It may stop or it may not stop. If the device is constructed which is in accordance with the diagram in the patent, the up car would be stopped by the down hall button without adding anything to the mechanism.

(Testimony of Humphrey F. Parker)

At the time I filed this application on April 25, 1921, I was not familiar with the detail of the apparatus used on an elevator floor selector. I knew the different circuits could be contacted with on the up and down motion. I had never studied the actual mechanism in use for a floor selector. I intended the switch handle No. 3 in the patent drawing to be brought over to the limit to start the car and upon the car starting it was to be brought back to neutral. (T-257)

I intended that the car should continue in operation while the switch was in neutral. I believe the device as illustrated in this drawing would so function, but have not made personal tests. When you return the car switch handle to neutral, the tail of the car switch handle 41 would pass over the contacts 39 and 40. That would not stop the car. I have traced the circuits out to see.

The witness was asked to trace the circuits that would be energized by the tail switch 41 bridging the contacts 39 and 40. The witness stated: The tail referred to is the tail piece 42. The current will flow from the line 12 by line 43 across gap 40-39, along 36′, through the coil and will form that circuit and through coil 37 by line 38 to negative line 13. The line 36′ will be alive so that the ring g′ will be alive momentarily, and that is as far as the current can get. It will not go back to ring g through the brush 41.

Insulation is provided between those rings. I think it is obvious. There is no insulation shown. In the drawing one arm is shown on the floor selector; that is the arm 34, through which I trace the down control circuit on Ex-

(Testimony of Humphrey F. Parker)

hibit A. It is understood that there is a mechanism to make the circuits described.

As to whether I included arm 34 in the up-control circuit on plaintiff's Exhibit 14, I said that that arm closed the gap and that in connection with defendant's Exhibit A that the same arm closed the down circuit. Assuming that there is no insulation, the circuit will be completed as there shown. If the circuit is completed from g to g′ the circuit heretofore set up by the bridging of 39 to 40, that is if the ring g is electrically connected to the ring g′, the car will stop on the way up for a signal calling for a down stop. It will not stop immediately upon the tail piece of the switch 3 bridging 39 to 40 when you are returning that switch to neutral. When the switch is returned to neutral, it crosses 39 and 40, but that does not stop the car. (T-261)

In tracing the circuit g′ is energized and returns through 36 and through the neutralizing winding 37 back to the main lead 13, which makes contact with g′ off 36′ and 39 and 40, and then goes down to 12. If the ring g′ is in electrical contact with the ring g, the car will stop. (T-263)

On the face of the diagram there is no showing that they are not in electrical contact.

The witness was then asked to assume that you press a down push button at the third floor, and the car starts up from the first floor and passes the third floor while the down push-button is set to stop a down car, will the car on returning from the top automatically stop at the third floor in response to that down signal, if the device is constructed in accordance with this diagram of the patent.

(Testimony of Humphrey F. Parker)

The witness answered—If constructed in accordance with this diagram, plus information of general knowledge, it will stop. I had that general knowledge at the time I filed this application. I had not any detailed knowledge of elevator practice, but I had a knowledge of electricity.

The floor selector in this diagram is purely diagrammatical. (T-263)

It does not refer to any particular floor selector. I did not know of the details of the commercial article. I assumed that some means in the floor selector for dividing the up and down circuits would be provided. If the circuits in the floor selector are separated so that the brush 34 doesn't contact ring g and g′ and the up and down contacts on the floor selector at the same time, the desired operation is still obtainable by the use of ordinary mechanism. While I was not familiar with the elevator art, I was familiar with the basis of electricity and mechanics. (T-265)

The witness was asked to please trace out the circuits and assume some kind of a theoretical means for dividing the up and down circuits to see if you can determine whether the car that has passed the down set push-button in its up travel will stop according to this diagram on its return downward trip. The witness mentioned it is further assumed that the arm 34 contacts with ring g in one direction and with ring g′ in the other direction. I could easily have made a construction of that kind when I applied for the patent. (T-266)

The fact that the arm 34 contacts with one ring in one direction and the other ring in the other direction is not shown in the diagram. As to whether there is an arm

(Testimony of Humphrey F. Parker)

of some kind on the floor selector that bridges g′ and the prime contacts on the floor selector in the operation of this system, a bridge is provided between g′ and f′ studs, and they would come into operation whenever that bridge reached the point that it registered with the respective floors in the right direction.

THE MASTER: I think the witness answered all (T. 269)

the questions when he said that he assumes the arm 34 is not in electrical contact with the ring g when the car is traveling down, nor that it is in contact with the ring g′ when the car is traveling up. (T270)

Cam mechanisms could be readily provided to separate the mechanisms. (T. 272)

The witness was then asked to trace out the circuit that will be made live by the third floor down push button in the diagram as shown in the patent and determine whether or not the arm moving as shown there on that diagram would reset the third floor down push button by the car passing it in the up direction. (T-274)

The witness stated that the button will be reset and the car will not stop when it came down unless the button was again pressed.

The witness was then asked what arrangement or structure did you have in mind in your statement that the brush 34 should be made to travel in one direction when the car was going down and in the other direction when the car was going up.

The Master ruled that he could have the patent before him to refresh his recollection. Exception. (T-278)

(Testimony of Humphrey F. Parker)

The witness was then asked if it was necessary for him to look at the printed part of the patent to refresh his recollection as to what he had in mind when he made the statement referring to the substituting in that floor selector some arrangement whereby the brush 34 moved in one direction when the car was going down and in the other direction when it was going up, and answered—I knew that I had worked it out properly at the time. I cannot recall exactly what I did eight or nine years ago.

(T-280)

I know how the floor selector could be corrected as compared with the arrangement and operation actually shown in the diagram so as to eliminate a down hall push button stopping an up car. I could sketch it but it is hard to describe because the whole structure will have to be shown. 34 rotates on an axis. A cam can be provided to push that in one direction of motion, and in the opposite direction of motion of the car.

Assuming that the arm 34 is moving clockwise, that is not due to the cam pushing it clockwise but is due to the gearing from the drum or from some moving part of the mechanism. (T-282)

The arm is moving clockwise when the elevator is moving upwards, and it is moving counter-clockwise when the elevator is moving downwards. It does not make contact at all times with the rings g and g′. It makes contact with the ring g in one direction and with the ring g′ in the other direction. It would do that *my* means of the cam mechanisms which is a mechanism which will push the shaft on which 34 is mounted in one direction for one motion and another cam which will push it in the opposite direction for the opposite direction motion.

(Testimony of Humphrey F. Parker)

That is, it will push the shaft on which 38 turns. That will either make contact with g or with g'. I have not seen an elevator with that particular mechanism in it, but it is elementary electricity and elementary mechanics.

(T-286)

A man skilled in this art is presumed to have an elementary knowledge of electricity and mechanics. That mechanism would obviate the resetting of the third floor button when it was pushed before the elevator got up to the third floor.

As to whether I checked that circuit through with that kind of arrangement so that I can state whether or not a device would be operative constructed in that manner, eight years ago I checked the circuit and on the basis of the work done eight years ago I can state that a device constructed in that manner would be operative. I believe it would be operative. I have not studied in detail the mechanism and circuit hook-ups and the way in which the Otis Signal Control operates.

As to whether it incorporates such a construction with a floor selector as I have described, it incorporates the equivalent. The exact structure is not present. (T. 288)

As to whether with reference to the means shown in the patent for performing the various functions called signal control, the power circuit shown consists solely of the circuit that connects the pole-changing switch with the armature of an elevator motor from the pole-changing switch to the main line, I will say that the power circuit consists solely of the circuit from the main lines from the pole changing switch to the motor. (T-289)

I did not get into the elevator in the Fisher Building in Detroit, and did not look into it at all. I had been

(Testimony of Humphrey F. Parker)

told previously that the signal control system was in use in the Fisher Building, but I did not examine it to find out.

I asked the operator whether it was or not, and it was upon what the operator told me that I base my statement. I did not see whether there were any buttons in that car.

As to whether I considered a push-button system, which furnishes a light to signal the operator who manually stops the car when he sees a flash light to be a signal control elevator, I would say that it is not a signal control elevator. (T. 294)

I was familiar with such a system in which lights were lit in the car before I had the idea on which I later applied for this patent. I knew that a push button would stop a car and I knew that push buttons also lit lights in cars. I had never seen a push button in the car light a light, but push buttons on the floor would light lights in the car. (T. 296)

I knew that a push button in the elevator art could either light a light in the car or could stop the car. Referring to the statement in the patent, page 1 of the reissue beginning line 39: "The invention has for its principal object to provide a novel system and means for controlling electric elevators of the general characters above mentioned, which is adapted to eliminate the errors made by inexpert operators, who bring the car to a stop a few inches above or below the proper level," the shutting off of the current in the (T. 296)

power circuit to the motor, if shut off at the proper time, as illustrated in my diagram, will itself bring the car to an accurate landing. It will not instantly stop the car.

(Testimony of Humphrey F. Parker)

All my patent shows is that it shuts off the motor and that is done the instant the contacts on the floor selector come into engagement. It does not imply that the power is instantly shut off.

Referring to the word "momentarily" in line 69 on page 1 when the contacts on the floor selector are engaged, it initiates the breaking of the power circuit. The power circuit is broken in the diagram as a result of the momentary flow of current and that could be done immediately. (T. 297)

The Master then asked if whether the reissue patent shows any means for leveling the car.

Mr. Lane answered—Yes; except this, Your Honor: On page 5 of the specification, line 23, you will see this: "Of course it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual breaking mechanism to overcome the momentum of the car, so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level." It means that you can utilize any of the known means.

Mr. Lane—This is a mechanism which is adaptable for use with any of the better known elevators, without destroying it in any way. (T. 298)

As to whether when I filed the application I knew of any form of slow-down or stopping mechanism for the elevator car which I could incorporate in this system or diagram, I knew that such mechanism was in existence, that is, mechanism in Otis elevators. It was a mechanism that brought them exactly to the floor level.

I knew that a system of relays could be installed that would bring about that result. I do not know how to put them in. (T. 300)

(Testimony of Humphrey F. Parker)

I knew the results could be obtained by relays but I do not know how in details. I could have worked out a mechanism that would be operative utilizing elementary electricity, but I relied on apparatus I knew to be in existence.

As to how I knew the character of the device at that time in the Otis elevator, I had never examined the Otis elevator at that time except that I had ridden in an Otis elevator. I could not tell from riding in an Otis car what the construction of the apparatus to slow it down was but I could tell that it came exactly to a floor level. I could form my own deduction as to the method as to how it was done, I knew it could be slowed down, but I did not know the details of the mechanism. (T. 301)

I believe that such mechanism could be put in this diagram. The mechanism was there and could be applied. I had never seen it done and couldn't say that I had any positive knowledge of it, but I thought it could be done.

The witness was asked if the reset coils for the floor buttons and the magnets for holding car switch armature are in series in the diagram, that is, the car switch armature No. 9, which moves over and closes the contact between 10 and 11—it is a part of the switch arm 4— and whether the coil 37 is in series with the reset coils of the floor buttons, the question being if the coil 37 is in series with the coil e when the switch is closed.

The witness answered that when the circuit is set up (T. 302)

between 37 and 37′ the circuit is complete.

As to whether I know as a matter of fact whether that is an operative arrangement, I believe it to be operative but I have not personally made the mechanism, and so I do not know. I have not had any experience in electrical engineering where I come into contact with a race of circuits. If current flows, the coils are energized; even if the current flows momentarily only the operation is completed on that momentary flowing. (T. 304)

(Testimony of Humphrey F. Parker)

VOLUME 3.

HUMPHREY F. PARKER (T. 306)

Cross-Examination Resumed by Mr. L. S. Lyon

The witness was asked to state the date when the idea came to him of stopping a manually controlled elevator by means of push buttons. Objection as immaterial and outside the scope of direct examination. Objection sustained. (T. 307)

My experience with the elevator at the Tuller Hotel in Detroit was in August, 1920. My experience and observations there caused me to work on the development of these ideas. I had realized the necessity before and the observations at the Tuller Hotel brought it further to my attention.

It was called to my attention before that on almost the first occasion I had opportunity to ride in modern elevators. (T. 313)

I was inconvenienced almost from the first occasions I had to ride in elevators.

between 37 and 37′ the circuit is complete.

As to whether I know as a matter of fact whether that is an operative arrangement, I believe it to be operative but I have not personally made the mechanism, and so I do not know. I have not had any experience in electrical engineering, where I come into contact with a race of circuits. If current flows, the coils are energized; even if the current flows momentarily only the operation is completed on that momentary flowing. (T. 304)

(Testimony of Humphrey F. Parker)

HUMPHREY F. PARKER—Cross Examination

Resumed By Mr. L. S. Lyon . . . . . (T. 306)

The witness was asked to state the date when the idea came to him of stopping a manually controlled elevator by means of push buttons. Objection as immaterial and outside the scope of direct examination. Objection sustained. (T. 307)

My experience with the elevator at the Tuller Hotel in Detroit was in August, 1920. My experience and observations there caused me to work on the development of these ideas. I had realized the necessity before and the observations at the Tuller Hotel brought it further to my attention.

It was called to my attention before that on almost the first occasion I had opportunity to ride in modern elevators. (T. 313)

I was inconvenienced almost from the first occasions I had to ride in elevators.

The witness was asked when he first did that. Objection as immaterial. Objection sustained. Exception to defendant.

THE MASTER: I have ruled that, inasmuch as the plaintiff in this action has chosen to rely upon the date of the application, dates prior to that time are immaterial. (T. 314)

I analyzed the problem in my mind and then proceeded to sketch up ways and means of doing it. I do not recall disclosing that to any one before I showed them to my patent attorney. The first sketches were made in Detroit after my experience in the Tuller Hotel elevator. I do

(Testimony of Humphrey F. Parker)

not know where they are; it is some years since I saw the original sketches. I do not know what has become of them. I have not seen them since I put them in an envelope and sent them to my attorney. Mr. Bradley to the best of my knowledge has not seen those.

(T. 316)

The witness was asked when he sent them to the attorney. Objected to on the ground that the name of the attorney had been disclosed and that they were immaterial because plaintiff was relying upon the filing date. Overruled. Exception to plaintiff. (T. 317)

The witness answered: They sent them some time in August, 1920. The attorney is still alive. He is not in Los Angeles, and I made no effort to get the sketches from him for the trial. He resides at Newark, N. J. I do not recall the exact nature of the sketches. They represent the invention as I understood it at that time. It was not identical with the diagram, but I do not remember wherein it was different in detail. I do not remember whether there was a single sketch or several of them. There were enough sketches to describe my idea at the time. (T. 318)

REDIRECT EXAMINATION by MR. LANE.

(T. 319)

Mr. Richards made out other applications for patents for me, and he applied for a patent that I had reissued after I talked with Mr. Bradley. As to why I applied for reissue, I believed that the patent had been applied for and prosecuted for me by this attorney and that he had obtained proper protection for me. It was pointed out for the first time in the elevator case that he had

(Testimony of Humphrey F. Parker)

not secured proper protection. I then proceeded to investigate this other patent and found in that case also proper protection had not been secured for me.

(T. 320)

Motion to strike as incompetent denied. Exception to defendant.

I consulted another attorney than Mr. Richards before and found out that that patent was defective also.

RE-CROSS EXAMINATION

BY MR. L. S. LYON (T-321)

I do not recall the exact date when I applied for this other reissue.

I brought it to the attention of this other attorney and the reissue was applied for shortly after that.

Q Will you please produce the reissued patent, if there is one?

MR. LANE: We will be glad to furnish you with that.

MR. L. S. LYON: I am asking the witness.

MR. LANE: That is what I am saying.

MR. L. S. LYON: Let's have it now when he is on cross-examination, both the original and the reissue.

MR. LANE: Get the information on what you want and we will be glad to furnish you anything through him or directly.

MR. L. S. LYON: When the witness refers to a document of that kind, he should have it here. And we move to strike out his testimony as not the best evidence.

THE MASTER: There has been no testimony as to the contents of the document or anything of that kind. He only testified to the fact that an application for a reissue was made.

(Testimony of Humphrey F. Parker)

MR. L. S. LYON: That doesn't prove it should have been made, or anything of that kind.

THE MASTER: No; but we can't try that. We would get into a collateral issue then.

MR. LANE: I am not attempting to show that issue, your Honor.

MR. L. S. LYON: Then we move to strike out the fact he tried to get another reissue as totally irrelevant in this case. (T-322)

THE MASTER: The testimony that has been taken both on direct examination and cross-examination and on redirect examination will only be considered as bearing upon showing what the state of this witness's mind was during the period between the application for the original patent in 1921 and the application for the reissue.

MR. L. S. LYON: This reissue was applied for after the date that you say.

THE MASTER: Yes. Sometimes matters that occur after that particular period will throw some light upon what the state of his mind was during that time. When you are going into matters of that kind, it is very difficult to determine what it will bear upon. But as to what was in the second patent or the second application for reissue—

MR. L. S. LYON: How do we know there was one? His statement is not the best evidence.

THE MASTER: If you want it produced just simply to show there was an application made, that is all right.

MR. LANE: Yes; I have no objection to producing it, your Honor, at all.

MR. LYON: Then let's see it.

(Testimony of James L. Reed)

MR. LANE: Your Honor, we haven't it here, and it is very obvious that that thing would not have been raised if it hadn't been for the question of his lack of knowledge of the practice in the United States. I asked that question because I thought it would show the state of mind, as your Honor has indicated. It is a public record, and it can be gotten in Los Angeles, I imagine, without difficulty, and probably Mr. Lyon has it in his own office.

MR. L. S. LYON: Probably I have. I don't know what it is, but I dare say I probably have got it. In view of the last answers of the witness and the statements of counsel, we move to strike the testimony regarding this application for this alleged reissue, on the ground that it is incompetent, irrelevant, and immaterial, and not the best evidence.

THE MASTER: The objection is overruled, or rather the motion is denied.

MR. L. S. LYON: An exception. That is all.

MR. LANE: That is all.

(T-323-324)

Motion to strike: testimony as to reissue of the other patent denied. Exception to defendants.

(T-324)

JAMES L. REED (T. 325)

Called as a witness on behalf of Plaintiff.

DIRECT EXAMINATION

by MR. LANE.

My name is James L. Reed. I live in San Francisco, California, and was born in '87. My present occupation

(Testimony of James L. Reed)

is building manager. I have no interest in this controversy in any way. I am not employed in any way by the Otis Elevator Company or either of the defendants, and I never have been. I have been closely connected with buildings for the past nine or ten years, with thirteen of the telephone company's properties in the city of Seattle, the telephone company big building in San Francisco, and my present connection is the Pacific Building in San Francisco.

It has been up to me to see that the elevators are properly operated, both from a service and operating standpoint, particularly during my connections with the telephone company. I am not as closely with them at the present time as I was then.

I have been familiar in general with the construction and operation of elevators during the entire period of my connection with buildings. Prior to that I had ridden in them and had taken particular note of how they operated. One building in Seattle had manually controlled micro-self-leveling elevators, manufactured by the Otis Elevator Company. That was known as the Telephone Building, located at Third and Seneca Streets in Seattle.

I took that building over in about the middle of 1920 and operated the building with the elevator installations until November 1924. I was transferred by the Telephone Company to San Francisco to take charge of their new property at 140 New Montgomery Street. That was a 27 story building, then under the course of construction to house the executive offices. It is technically 27 stories, 25 are devoted to offices. The elevators are known as Otis Signal Control.

(Testimony of James L. Reed)

I officially arrived on the job on November 24, 1924, at which time the Otis people were installing the elevators. I recall a great deal of hoisting going on. The overhead machinery seemed to be a problem at that time and the guide rails. I would judge the work had been in progress for some three or four months before my arrival.

(T. 328)

The first work I believe was to locate the overhead machinery, the guide rails, and place the cabs in place and string out the cables, tie in the cars to the driving mechanism, and what seemed to me a maze of a million wires in connection with what I supposed was the signal control connections.

There were two banks of elevators in the building. The north bank had four elevators rising to the 22nd floor; the south bank had five elevators, four of them to the 26th floor and one to the 27th floor. The first bank was turned over to me on June 1, 1925.

They had been in operation previous to that time only by the Otis people in testing them out and seeing that they were O. K. for me to operate. I started the operation on June 21, 1925, and that bank has been in continuous operation since.

The elevators in the other bank were handed over to me piece-meal, two of them on September 1, 1925, two additional on October 1, 1925, and the fifth of that bank on or about November 1, 1925.

The construction and operation of the elevators was explained to me just previous to June 1, 1925, after the Otis elevators all were through with their test-out period of these four cars, which were turned over to me first on

(Testimony of James L. Reed)

June 1, 1925. I believe the gentleman who explained them to me was recognized as an Otis Eelevator Company engineer.

The advantages of construction and the manner of operation were explained to me previous to the time I commenced the operation by the Otis Company engineer.

Prior to that time I had heard in Seattle what was going on in the new building in San Francisco.

The witness was asked what he said when the elevators were explained to him. Objection sustained.

THE MASTER: You may answer, for the record.

After the Otis Elevator Company engineer had explained it to me in the way he did, in the thorough manner, and taken me in the car, and operated the elevator and shown me the penthouse and the machinery, I think I told him I thought they could almost walk, talk, chew tobacco, and spit through their teeth. (T. 332)

After the Otis Company turned them over to me, there was no more grief or difficulty with them than would be expected from any piece of machinery, to limber it up and get it into working order.

They operated, after a very short limbering up period, just exactly as they are operating today, full signal control, as it is termed.

At to the operations of the buildings, there are two different operations. There is an operation from the first floor to care for passengers going from the first floor to any point in the building, and then the inter-floor travel that takes place from say the second floor to the top of the building, or from the top of the building to the second floor.

(Testimony of James L. Reed)

When a prospective passenger comes into the building on the main floor, he is met by a director, who ushers the prospective passenger to an elevator, requesting that passenger to give his desired floor. The passenger, if he abides by that, says "Six," and the operator or traffic officer immediately registers that desired destination on a push-button in the cab. (T. 334)

There is a push button for each floor up and down. After the car is loaded a signal from the remote dispatch room sends the car away. If the first prospective passenger wishes to get off at the fourth floor, that button has been depressed and the car automatically comes within a certain range, de-accelerates, and comes to an absolute stop at the floor level, in accordance with that previous operation by this operator.

On the way up, if some prospective passenger wishing to go up at the second floor had pushed a hall button, the car would automatically come to a stop at that floor to pick up that passenger. The signal from the dispatcher was a cue to the director on the floor and he gave a visual sign to the operator. The operator to start the car threw the starting handle over, which automatically closed the doors. Afterwards, the car proceeded on up the hatch and the handle came back to a neutral position. (T. 336)

As to how signal control cars operate, the starting of the elevator is by the operator and all the stopping automatically by the equipment from either the push buttons in the cab or the push buttons on the floor landings.

When I came on the job, I had to start building my own organization, hiring a chief engineer and others; I personally hired every operator to handle the cabs. I

(Testimony of James L. Reed)

instructed the operators that I had employed. Inasmuch as the operation of the cars appeared to be so simple, it was ruled that we should use female operators and in my hiring of female operators, I knew that there had been all kinds of elevators in service, and I purposely avoided hiring girls that had had too much experience with other types of equipment, and I purposely wanted inexperienced girls who could be whipped into line without having to take this old information away from them first. I think only one or two operators had had previous experience. At first I hired five operators, and later, after they were handed over to me completely, we had eleven people to operate nine cars. A girl who was very adaptable could be taught to operate one of the cars in about two hours; some of them took possibly four. After I had shown them how to operate them, the cars were immediately turned over to them, and they started in with the regular passenger service. If I am not mistaken, six of the original girls are still operating cars.

We started the girls at $85.00 per month, and at the end of ten months they were drawing $95.00 per month. The maximum paid is $95.00 per month, but since the Telephone Company recognizes merit to a great degree, I believe some operators had been boosted, maybe $5.00 more.

I am familiar with the Standard Oil Building in San Francisco to the degree that I purposely interested myself in its method of operating, seeing where I could supply some of their methods to my problem in the Telephone Building. I believe their elevators are known as manually controlled self-leveling Otis elevators. (T. 340)

(Testimony of James L. Reed)

In the Pacific building we are operating the old straight manual control elevators, twenty years old. (T. 342)

I was told in more or less of a roundabout way by some of the men being acquainted and connected with some of the operators in the Standard Oil Building what the operators were paid. The information was that they were paid from $125.00 to $150.00 and $175.00 a month. Objected to as incompetent. Sustained. (T. 343)

Between the three different tpyes of elevator, the old manual control elevator, the micro-drive, and the signal control, I would say that the signal control elevators have completely revolutionized vertical transportation, because it has been made so simple. The safety factor has been brought to the last degree. It permits of a cheaper grade of operator to do a comparable job, and from a building man's standpoint I think they are just about as near foolproof as machinery can be made. (T. 344)

The signal control elevator permits of much higher speed than can possibly be attained with manually controlled elevators.

The micro-drive is a self-leveling proposition that takes the human element out of floor landings completely. The operator has to stop the car within the zone with the micro-drive.

The signal control is the last word in elevator equipment. The old equipment, which I now operate, has neither self-leveling nor push putton control, which are two of the fundamentals in fast vertical transportation. I think the Telephone Building elevators are operating at 700 feet per minute.

(Testimony of James L. Reed)

As far as operation is concerned there is a steady even glide to the signal control elevator which is not possible with the manually controlled elevator. There are no sudden stops or starts. There is no jarring to a passenger, and there is a floor landing at every landing which cuts out the accident hazard. (T-346)

(Question read.)

A Well, no. You can have a self-leveling micro-driven elevator without the signal control; and some of the advantages I have already referred to are in connection with a straight signal control, which the elevators were in Seattle.

MR. LANE: I think you are twisted there.

THE MASTER: Yes, you are twisted there.

MR. LANE: Read the answer to him.

(Answer read.)

A No; strike that out.

MR. LANE: I wonder if that might be corrected.

THE MASTER: Yes; correct it.

A The elevators in Seattle were of the micro-drive, without signal control. (T-347-348)

The Telephone Building in San Francisco has a signal control over the micro-self-leveling in Seattle, and the Pacific Building cars which I now operate has neither signal control nor self-leveling. The Telephone Building in San Francisco is traveling 700 feet per minute with nine cars to care for 27 floors with daily passengers about 12,000 and 1500 tenants in the building. The Pacific Building, with which I am now connected, has six elevators for only nine floors, with only 500 or less than

(Testimony of James L. Reed)

600 tenants, carrying about 8,000 passengers per day, and it is a problem for the six elevators to do that job.

The Telephone Building in Seattle, which I left in 1924, but I have been back there since, have added three stories to the building, making it a thirteen story building, without additional elevator equipment. Up to the time I left there were about 700 tenants and possibly 9000 daily passengers and running 400 feet per minute. It has four cars. (T-349)

CROSS-EXAMINATION

by MR. L. S. LYON. (T. 349)

Referring to the car switch in the Telephone Building in San Francisco, the operator threw the switch handle over to a certain point which caused the doors to close and then passed that and the car started after the doors had been closed.

I do not know what would happen if the switch were thrown all the way over. I think we instructed the operators not to do that for it was apt to burn the contacts in the box. I cannot talk from a technical standpoint and do not know.

I am not sufficiently acquainted with the actual mechanism in the Telephone Building in San Francisco, which causes the elevators to start and stop in the manner I have described. I have seen it all in operation, but I would not feel able to describe just how it is constructed or how the operating mechanism functions.

The director in the Telephone Building does not push any buttons. The operator of a car pushes the push buttons. The director merely ushers the person to the

(Testimony of James L. Reed)

car and the passenger tells the girl what floor he wants to go to. There is no operators' union in San Francisco. I know from talking to the building manager that the elevators in the Standard Oil Building in San Franicsco operate at 600 feet per minute. (T. 351)

I believe that the Hunter-Dulin Building in San Francisco is running more than 600 feet per minute with only self-leveling devices, but I may not be correct about that. There may be the signal control in there.

The other high speed job in San Francisco is the Russ Building, and they are full signal control elevators.

As to what they use in other parts of the country, I have seen literature at different times which has been handed out by the Otis Elevator Company, and I have read generally along the lines of the student mechanic or electrician.

I think that elevators are operated with self-leveling but without signal control up to about 600 feet. That is about the limit. I cannot say that I do know or don't know that none are running at 700 feet. (T. 353)

The smooth running and coming to the exact landing are advantages that are due to the self-leveling mechanism primarily. The self-leveling and the signal control go hand in hand according to my experience. If I had to take either the signal control or self-leveling out of an elevator, I would have to take the signal control out, because there is really no human element involved in the signal control, whereas there is a human element involved in the floor landings. If an elevator cannot be operated over 600 feet per minute manually, it is not logical to try to operate it at 800 feet per minute, as is done throughout

(Testimony of Milton Baruch)

the country. Therefore, I would retain the self-leveling feature, which would take the human element out of that. (T. 354)

I know what the self-leveling mechanisms do but I don't know why. The operator throws the switch. The operator receives signals in different ways. I have seen it through an annunciator and I have seen a big red light.

If a passenger pushed a button on the second floor just as an elevator was passing the second floor, the elevator would not catch the signal at all and neither would the signal control.

I believe that in the Telephone Building it was necessary to push the button when the car was three floors above or below the calling passenger. In a range when you have an annunciator or light, the operator has to throw the switch about a full floor.

On a self-leveling elevator, if it was set for a signal to be registered to the operator a floor in advance, it would give the operator 90 per cent of the difference of travel between the time he got that signal for him to begin to watch his floor and catch his car within the micro range.

I do not recall the switch arrangement in the telephone building. I don't know whether the switch came back to neutral after the elevator was started or not. (T. 356)

MILTON BARUCH (T. 357)

Direct Examination by Mr. Lane.

My name is Milton Baruch. I reside in Los Angeles, and at the present time I am Vice-President of the Consolidated Steel Corporation, which is a successor to the business of the Llewellyn Iron Works, which is a defendant in this case.

(Testimony of Milton Baruch)

I was connected with the Llewellyn Iron Works, defendant, for about 18 years. At the last I was chief engineer and assistant secretary for about 5 years. The Llewellyn Iron Works is still in existence as a corporation. The Llewellyn Iron Works stopped manufacturing and marketing January 1, 1929.

I am familiar with the installation of elevators by the Llewellyn Iron Works in the Pacific Finance Building in Los Angeles. The entire bank of elevators in that building were in operation between March 23, 1926 and June 6, 1927. The Llewellyn Iron Works put that job in.

(T. 360)

I do not remember the exact date when it was turned over completely.

The Llewellyn Iron Works were manufacturing, selling or offering for sale, elevators like the Pacific Finance installation, embodying signal control elevators between March 23, 1926 and prior to June 6, 1927. There might be a doubt about that because I am not clear on dates. I am certain that had we been requested to figure during that time, we might have.

The witness was asked to look up the matter of sales during this period and bring over some documents to substantiate his statements. I am familiar with the type of elevator that was installed in the Pacific Finance Building. I had something to do with the design and also with the sales of the elevators of the Llewellyn Iron Works. I suppose I would be in as much of a position as any one to know whether they were offered for sale by the company.

(Testimony of Milton Baruch)

We offered equipment of the general type of the Pacific Finance Building for sale to the San Diego Trust & Savings Bank in San Diego, but I am not certain as to the dates. I believe I could ascertain the date on which the order was taken and the date when it was installed.

(T. 366)

An elevator of the general type of the Pacific Finance Building was put in the San Diego Trust & Savings Bank by the Llewellyn Iron Works. I think I first learned of the Parker patent during the year 1925 before the reissue. I am not sure whether I saw the elevators in the Standard Oil Building in New York City before or after Llewellyn Iron Works made any elevators of this type. I think Mr. Bradley took me over the installation. My recollection is that he told me that the Otis Elevator people had just purchased the patent, and I think he said it was being reissued.

That may have been three months before the reissue came out. I am not certain whether it might have been more. It is barely possible that it was in 1924, when I first saw the Standard Oil job in operation. I don't remember whether I did or whether I didn't see The Standard Oil job more than a year before I talked to Mr. Bradley about it.

The Westinghouse Electric & Manufacturing Company furnish some of the electrical equipment for use in the Pacific Finance installation. Objection overruled. Exception. (T. 368)

The Westinghoue Company furnished the hoisting motor and the motor generator sets. I do not believe I

(Testimony of Milton Baruch)

advised with Mr. Beam or Mr. Banning or Mr. James in connection with the equipment or the devices that were to be installed in connection with the signal control elevators like the Pacific Finance. (T. 372)

I may have talked with some of the gentlemen present regarding this installation. I can't say what date. Objection. Overruled.

I am pretty sure that I did not consult with some of them previous to the time we put in this installation in the Pacific Finance Building. (T. 375)

The Westinghouse Company did not furnish the wirings and the diagrams of that sort in connection with the electrical equipment being installed at the Pacific Finance Building. The Westinghouse Electric & Manufacturing Company did not furnish any specifications or other information concerning the electrical equipment which would be used in the Pacific Finance Building by the installation or during the installation. Objected to. Overruled. Exception. (T. 375)

So far as I know the Llewellyn Iron Works did not furnish wiring diagrams or specifications to the Westinghouse Company in reference to the Pacific Finance installation. We undoubtedly ordered from the Westinghouse people certain material and we specified what the material would be in the order and that is the extent of the information that was given by us to the Westinghouse Company, so far as I know. No one else would know any better than I about it.

I had conferences with our attorneys in connection with the Parker patent at the time I first saw it. (T. 379)

(Testimony of Milton Baruch)

I am not certain but I would guess that in 1926 I first examined the Pacific Telephone & Telegraph installation in San Francisco of the Otis Signal Control. I do not believe I ever saw any drawings. I have seen some patents which they have taken out which relate to it. In general I understood the operation of the signal control system when I first saw it in the Standard Oil Building in New York. I could observe that there was a device in the car for starting it and a mechanism in the car which, when initiated, would cause the car to automatically stop at each landing, and also a landing switch at each floor which caused the car to automatically stop once that had been initiated in either direction. (T. 380)

I cannot remember that we have specified in any of our jobs in competition with the Otis Elevator Company signal control elevators as such and under that name.

The witness was asked if he did not remember that it was specified that way on the Richfield job. Objected to on the ground that it is not shown to be prior to the filing of the suit. Objection overruled. Exception. (T. 381)

The Llewellyn Iron Works did not install a signal control elevator in the Richfield Building.

Attention of the witness was then called to the contract of November 1, 1928, reading at the head "Specifications for Electric Elevator Equipment, six manual automatic stopping signal control, variable voltage, gearless passenger elevators to be installed in the building to be erected for the Rioco Investment Company."

That is the building that I referred to as the Richfield Oil Building. That reference that we made there to

(Testimony of Milton Baruch)

signal control does not refer to the same system of control as was installed in the Pacific Finance Building. (T. 385)

The witness was asked whether or not they involved mechanism by which the car is started only from the car, in the normal operation, and is automatically stopped by the pushing of a button by the operator in the car, or by a passenger at the landing, in either direction. The witness answered no.

In the Richfield installation this method of starting is used. It is started by the operator initiating some other means but not directly. It is not done by the operator moving a car switch in the car. The starting of the car in both installations is initiated solely by the operator within the car.

Recess (T. 389)

DIRECT EXAMINATION

RESUMED by MR. LANE. (T. 390)

I found out that the Pacific Finance elevators were contracted for in January, 1925. The operators were working on January 1, 1926. I do not know when they were turned over to the building out of our charge, and I am not positive if every one was operating January 1, 1926. I will endeavor to find out the date when the complete installation was made and finished and when it was put into operation.

I presume that the Otis Elevator Company was a competitor of ours in bidding on the Richfield Oil Building. I rather doubt if it was a competitor in bidding on the Pacific Finance Building. (T. 394)

(Testimony of Milton Baruch)

In the case of the Pacific Finance Building one of the principal owners of the building was a man who was interested in our company and also happens to be the head of the Pacific Mutual Life Insurance Company, and my impression is that he gave us that contract without any competition.

On the Pacific Finance Building we received an order for car switch control elevators of the ordinary type, variable voltage, and at a later date asked the owner's permission to install a scheme which we called automatic stopping, and which he gave us permission to do. (T. 394)

The witness was asked whether that was a scheme in in which you had the starting of the elevator by an operator in the car and the stopping automatically at the landing and from the car when it was initiated by push buttons at either place, and the witness answered that that partly describes the system. Those items were involved. (T. 395)

I do not remember that I told Mr. Bradley that I had advised the Llewellyn Iron Works to purchase the Parker patent. I do not remember that I did or didn't. I remember that Mr. Bradley told me that he had bought the Parker patent, and that he had asked for a reissue on it. (T. 397)

The witness was then asked whether defendant has any patents which purport to cover the so-called signal control or automatic stopping control elevators. Objection. Objection overruled.

The answer was—as such I think none have issued.

The witness was then asked whether they had any pending applications on the signal control or automatic stop-

(Testimony of Milton Baruch)

ping device. Objection. Objection sustained. (T. 398)

Offer of proof. Plaintiff offers to prove that if permitted to testify the witness would state that they had filed applications for patents on these automatic stopping controls, as the witness has testified to it, or signal controls as shown by the contract, and that these applications, if brought to the attention of the Master, would show that the defendants' own representatives are representing that this character of invention was a patentable subject-matter; that there was novelty in the device of the patent; that the defendants' device had substantially all and perhaps added advantages of those we have set out here for the invention in suit; that they have attempted to claim, with minor modifications and additions, the invention of the patent in suit, and have sworn that these were inventions and possessed the advantages which I have referred to. And that the records would also show, if produced, that these statements were made in writing prior to or shortly after the time the litigation was started, and would have a strong tendency to prove that there was invention involved in this case. And that the most of the contentions which have been made here on the other side as to aggregation, as to function, as to schematic drawings, and all of the various other issues made, are unfounded, from their own records. (T-402, 403)

We are in competition right along in this territory with this type of elevator which the Otis Elevator Company has termed the Otis signal control elevator, and on almost every job during all the time since we first started putting out the so-called automatic stopping control elevators.

(T. 407)

(Testimony of Milton Baruch)

I think that in this competition we have offered to supply elevators which would accomplish all of the results of the signal control elevators specified in these various contracts or specifications.

In that connection, we have claimed that this so-called automatic stopping control or signal control elevator of the Llewellyn Iron Works accomplishes the same results as the Otis signal control elevator. (T. 409)

The fact that this so-called signal control or automatic stopping control elevator was started by the operator only from the car and that it will stop automatically by push buttons that are in the hall or in the car may have been mentioned. I am not certain, but they probably were. So far as I know at the present time, the Otis Company and the defendant, Llewellyn Iron Works, are the only ones selling these so-called automatic stopping controls or signal control elevators west of the Rockies.

So far as I know and confining my answer to what the Llewellyn Iron Works term automatic control and what the Otis Elevator Company term signal control and to no other type, no one else anywhere has sold any of these elevators west of the Rocky Mountains. Objection. Objection overruled. Exception. (T. 410)

I have followed the business very closely. In the ordinary running of the car, the starting of the elevators in the Pacific Finance Building are controlled entirely by the operator within the car. (T. 412)

In the Pacific Finance elevators the operator from within the car may push a button corresponding to any floor as the floor is called. And when he or she has done that the car automatically stops at the floor which is indi-

(Testimony of Milton Baruch)

cated without having the operator do anything else, and when any passenger at any landing pushes either the up or down button, the car is automatically stopped without the operator in the car having to do anything. (T. 413)

Neither the passenger outside the elevator nor the operator in the car can start the car, except the operator within the car may use the master switch for starting it in the Pacific Finance Building. There is a series of floor buttons corresponding to each floor in the car within the easy reach of the car attendant in the Pacific Finance Building.

There is one push button for each floor. The pushing of the push buttons in the car or the push buttons at the landings for stopping the car have nothing whatever to do with the starting of the car.

When a button is pushed in the car in the Pacific Finance installation and one is pushed for the same floor from the landing the car will stop at that landing, regardless of the fact that both buttons have been pushed. After the door has been closed and the car has been automatically stopped at the given landing, and the door has been closed, all the operator has to do is to throw the Master switch to *on* position to start the car.

In the ordinary course of operation in the Pacific elevator construction, the starting of the car is done entirely by the operator and the stopping is done either by the operator pushing a button in the car or the passenger pushing one at the landing. (T. 416)

As to whether the Llewellyn Iron Works manufactured, sold, used or offered for sale in the United States between the 23rd of March, 1926 and June, 1927, elevators em-

(Testimony of Milton Baruch)

bodying these principles of the automatic stopping control or signal control, like it has used in the Pacific Finance Building, I should say no, but I haven't had time to verify the data. I say no because of the way you asked the question. (T. 416)

I do not remember as to the dates. Assuming that on the occasion of Mr. Lane's visit in 1927 when many conferences were had, I have a recollection that we mentioned the San Diego job at that time; I cannot remember whether it was already contracted for or not. My memory is that it was either being offered for sale or that we had received the order. (T. 419)

That was previous to the time this suit was started.

The witness was asked whether the Westinghouse Company furnished any equipment, specifications, drawings, or other information concerning the installation to be put in the San Diego job. Objection as incompetent, irrelevant and immaterial, that it is not shown that the San Diego job in any way embodies anything material to the patent, and that it is not shown that the San Diego job is the same as the Pacific Finance job which is the only thing charged in the bill of complaint. Objection overruled. (T. 420)

The witness answered Yes.

The type at San Diego is the type that has an operator starting the car and it is stopped by a push button in the car and at the floor landings. I do not remember the details of the installation at San Diego at the present time. (T. 423)

I presume that we have drawings and specifications and wiring diagrams showing the installations at San Diego

(Testimony of Milton Baruch)

of these automatic stopping control elevators in our files.

The witness was asked to produce such drawings, specifications and wiring diagrams, showing the installation of the San Diego building on the theory that we are including this within the charge of infringement. Counsel for defendants said he would take the matter up and advise in the morning whether defendants would voluntarily produce those drawings.

The witness was then asked whether the Westinghouse Electric & Manufacturing Company's representatives, Messrs. James, Beam and Mattingly had been collaborating in the defense of the case with defendants' counsel, and whether Messrs. Bean, Mattingly and James had consulted with Mr. Lyon during the progress of the litigation, and whether or not they had been in conferences with defendants' counsel and with defendants concerning the early installation of these alleged infringing elevators. Objection sustained. (T. 430)

Offer of proof that the answer would have been in the affirmative in answer to each of the questions if the witness had been permitted to answer.

I do not remember at the present time what was the last signal control elevator or automatic stopping control elevator installed by the Llewellyn Iron Works. I do not remember whether we have only installed three of them. I do not remember any more than three. (T. 431)

In the Pacific Finance Building, you could operate the elevators either with or without the push buttons for stopping at the floors, and you could also operate the car without the use of the push buttons in the car for stopping, so that you can cut out if you desire all of the

(Testimony of Milton Baruch)

automatic arrangements for stopping the car through the push buttons either from the floor or from the car and operate the car by manual control. (T. 431)

That can be accomplished by throwing a switch in the car. I am not certain whether that is true of the installation at San Diego. I could not answer whether all the jobs that we have constructed have been constructed in that way.

I do not remember whether we have had only three installations.

The push buttons in the San Diego job were for the purpose of stopping the car and in general I remember the one that was being offered for the Richfield Oil Building. I do not remember at present what others have been installed of this type.

MR. LANE: We ask to have the Master order the witness to produce, by proper procedure, the documents that were furnished to the people who had to do with the installing or operation of construction of the elevators at San Diego.

THE WITNESS: These elevators were installed by the Llewellyn Iron Works, and I presume that the wiring diagrams and things of that kind were used by the men who made that installation.

The Master stated that before he would enter the order he would permit the defendant to offer evidence on the point that the material was secret and involved or might be involved in an interference. (T. 440)

THE MASTER: If you wish, Mr. Lyon, to offer any evidence to show that the matters that have been requested or the drawings that have been requested, or that

(Testimony of Milton Baruch)

the production of those would disclose matters that are contained in pending applications, you may offer evidence on that point and you may have sufficient time in which to present it. (T. 442)

CROSS-EXAMINATION By Mr. L. S. LYON.

(T. 443)

My duties in the Llewellyn Iron Works were executive duties. The Llewellyn Iron Works was interested in the manufacture of a great deal of other apparatus and material in addition to electric elevators.

As Chief Engineer the details of these different installations of elevators, when they were put in and what was done with them to get them into service, was left by me to others. That is why I am not familiar with all the details that were asked on direct examination.

As to the circumstances when I first learned of the original Parker patent, after we had gotten up a scheme for accomplishing the results of stopping the cars in these manners and saw our attorneys, Lyon & Lyon, and asked them to have a search made in regard to these manners. The search was to be made mostly, as I remember it, on the matter of accurately landing the cars. (T. 444)

The original Parker patent was first called to my attention by Lyon & Lyon in the early part of 1925, maybe in the middle of 1925, somewhere around that time, but I can't say. (T. 447)

I do not remember the date when the wiring diagram or drawing for the automatic stopping equipment of the type later employed in the Pacific Finance Building was first completed.

(Testimony of Milton Baruch)

The witness was asked whether at the time the drawings were completed for the type of equipment embodied in the Pacific Finance installation he knew of the construction or mode of operation of the Otis signal control equipment.

Q Do you remember whether it was before or after you learned of the Parker original patent?

A I am very certain that the drawings were all finished before we learned of the Parker patent.

MR. LANE: I object to that as a conclusion of the witness, in view of his testimony before.

THE MASTER: That may be stricken.

Objected to on the grounds that the witness has already stated that he couldn't state when they were made or he couldn't state when the other event happened which is attempted to be compared with it, and leading and suggesting the answer sought. Objection sustained. Exception.

The Master stated that he was not inferring that the question was not within the issue, but was ruling that it was not within the scope of witness' direct examination. (T-451)

As to whether the structure of the San Diego job is similar to that of the Pacific Finance Building, I don't very well remember the construction in San Diego at the present time. I am not familiar with the details of that construction. I know Mr. Bradley of the Otis Elevator Company. Mr. Bradley is here in the room. (T-454)

What I learned at the conferences with Mr. Bradley was my first knowledge that the Otis Company owned the Parker patent. I think this particular meeting with

(Testimony of George N. Crabbe)

Mr. Bradley was in December of 1925 or it may have been November. I can't remember what was said by Mr. Bradley in reference to this Parker patent, except that he informed me that the Otis Company had bought it and that they were endeavoring to reissue it. I don't remember whether I made any statement about it myself.

RE-DIRECT EXAMINATION By MR. LANE.

(T. 456)

I don't remember how long I was Chief Engineer of the Llewellyn Iron Works. As to whether I testified in February, 1927, that I had been chief engineer from about 1918 until that date, I presume that is correct. I was chief engineer of the company until it sold out, so that from 1918 until the first of January, 1929, I was chief engineer of the Llewellyn Iron Works, and as such I had to review as to type carefully in installations of the new type and on a great many points I went very carefully into all of the new installations of the new type that were first being installed.

RE-CROSS EXAMINATION (T. 457)

As Chief Engineer during this time I did not know all of the details of the installations and when installations were made as to exact dates, etc.

GEORGE N. CRABBE (T. 459)

Called as A Witness On Behalf of Plaintiff.

DIRECT EXAMINATION BY MR. LANE

My full name is George N. Crabbe. I reside at Creskill, New Jersey. My present occupation is electrical engineer. I have been engaged as electrical engineer since

(Testimony of George N. Crabbe)

1904. I received a college education at the University of Minnesota. At the present time I am connected with the Otis Elevator Company, plaintiff, and have been since 1904.

I am the Mr. Crabbe who testified by deposition, pursuant to the agreement of counsel immediately following the 20th of June, 1928, in New York.

My work during the entire time I have been connected with the Otis Elevator Company has been the development of the elevator control apparatus. During this more than a quarter of a century I have been familiar with the various products put out by the Otis Elevator Company. (T. 461)

I was graduated in electrical engineering at the University of Minnesota. All of my work with the Otis Elevator Company for the past fifteen years has been connected with control apparatus, design of switches and controller development. In the early part of my work with the Otis Elevator Company I made diagrams and did experimental test work. I have done work on many new installations, especially on new apparatus when first installed, which usually requires an engineer to get them in proper working order. I am entirely familiar with the reading of schematic diagrams, straight diagrams and other diagrams of that character usually used in connection with laying out electric equipment.

The Otis signal control elevator is one in which the car is started either in the up or down direction by means of a car switch controlled by an operator in the car, and controlled by this person alone. The stopping is entirely automatic, and is initiated either by the operator

(Testimony of George N. Crabbe)

from buttons in the car or from buttons located at the landing. Once the stopping circuit has been initiated, the automatic stopping of the elevator itself is entirely without the control of either the operator or the passenger that may have pressed the landing button. (T. 462)

I have seen these signal control elevators in operation in New York mostly. The names of some of the buildings that I have examined are the Standard Oil Building, the Chase National Bank, the Graybar Building, and the French Building. I have seen them in Los Angeles at Seventh and Main.

In stating what happens in connection with the operation of these signal control elevators of the Otis type, assuming that the operation takes place from the ground floor, where there is usually a car standing with the door or gate open, passengers will enter the car, and the customary method is as they enter the car to call the floor at which they desire to alight, and upon so doing the operator presses buttons which correspond to these floors. When the operator receives the signal from the starter to proceed, he places the control lever, first, in a position to close the door and gate, after which he throws it to the operating position, which in this case would be for operating the car in the up direction, and the car will proceed. Upon approaching the first landing for which a button has been pressed, the car will automatically stop at this floor and the door and gate will open, allowing the passenger to alight. The operator then closes the door and gate in the same manner as before, and then places the car switch in the operating position, and the car proceeds. On arriving at the next

(Testimony of George N. Crabbe)

landing the same procedure takes place. Should a passenger at any floor desire to enter the car, he presses the button at that floor marked in the direction in which he wishes to travel, that is, in case he wishes to travel up he presses an up button, and in case he wishes to travel down he presses a down button. In case this passenger has pressed an up button, the car which I have been describing as traveling in the up direction will stop at this floor, and the door and gate will open, permitting the passenger to enter the car. This passenger, as the others, calls the floor at which he desires to alight, and the operator pushes the corresponding car button. In case a person at a landing wishes to go in the down direction while the car is traveling in the up direction, the car will pass this floor and continue to its limit of travel, and upon descending will stop at this floor automatically and pick up the passenger. (T. 463-464)

In describing briefly the circuits and switches and mechanism by which the Otis Elevator signal control elevator construction is controlled and operated, after the door and gate have closed the placing of the car switch in either the up or down position causes the energization of certain switches on the control panel, which connect the elevator motor armature to the power supply in such a manner that the car will travel in the direction corresponding to the position of the car switch, that is, if the operator places the car switch in the up direction the current will be admitted to the armature in the proper direction to cause the car to ascend. As soon as these switches have closed, other circuits are established paralleling the contacts in the car switch, which cause these

(Testimony of George N. Crabbe)

circuits to be set up and permitting the operator to return the car switch to the neutral or off position. The car is now traveling and the stopping is not under the control of the operator except by the pressing of the buttons in the car. This refers to the normal operation of the elevator.

The pressing of a car button or a button at the landing prepares a stopping circuit, and when the car approaches the landing corresponding to which buttons have been pressed, by means of a selector driven in synchronism with the car the circuit which was prepared by the pressing of either the car or hall button is completed, causing the energization of certain switches and relays, causing the car to stop at the floor for which buttons have been pressed. (T. 464-465)

This is the construction known as the Otis Elevator control construction. The first one which I have described was installed in January, 1924, in the Standard Oil Building in New York. That type of construction has been sold very extensively since that time and has been installed in nearly all of the large cities of the United States. (T. 466)

I know where they have been sold and the buildings in which they are located, and I follow these records when these installations are shipped. That is part of my duties. If there is any criticism concerning them or any question of operation, these matters are submitted to me.

I have no knowledge of how many we have sold since June 1, 1928, when I checked it up particularly. Previous to that time we had sold 785 signal control elevators in 105 buildings. The approximate cost of these elevators

(Testimony of George N. Crabbe)

was between $23,000 and $25,000 apiece. The Master stated that the last figures were for the total cost of the elevators. (T. 468)

I have examined the Standard Oil installation in New York since it was installed. I think I have been in it three times. I know that it is still in operation and it has given very good satisfaction.

I am familiar with the Parker reissue patent No. 16,297, of March 23, 1926.

Describing briefly the construction there shown: The operation of an elevator made in accordance with the Parker patent, as I understand it, would be as follows: One in which the car is started by means of a car switch controlled by an operator and where the stopping is entirely automatic and not in any way under the control of the operator. This stopping is accomplished by the pressing of buttons located either in the car or in the hall, the floor at which the car stops being determined by a selector synchronously driven from the hoisting machine acting in conjunction with the buttons which are pressed. Thus stopping is entirely automatic while the starting of the car is under the control of the operator. (T. 469, 470)

That patent does not show any construction whereby the car may be started from any position other than that of the operator within the car; it shows no means by which it can start outside of the car switch.

Referring to the drawing of the Parker reissue patent, defendant's Exhibit A, in describing the construction and operation of the device as I understand it, to start the car in, say, the up direction, the operator will move

(Testimony of George N. Crabbe)

handle or lever 3 into the up operating position, thus causing contacts 10 and 11 in the car switch to be bridged, by bridging number 9, completing the circuit for the pole-changing switch, and also energizing the coil or solenoid 32 in the car switch. This will cause the pole-changing switch to close its contacts so as to admit current to the elevator motor armature in proper direction to cause the car to ascend. Due to the fact that solenoid 32 has been energized, the member 4 will be held in such a position as to maintain closed the contacts 10 and 11, even though the operator returns the lever 3 to the off position. The car is now moving in an ascending direction. In order to stop the car from a push-button in the car, the pressing of say push-button a-2 will set up a circuit through the contact of this push-button to the contact f-2 on the selector, indicated as s on the drawing. When the car approaches the landing to which a-2 button corresponds, the contact f-2 will be bridged with the ring g, completing the stopping circuit. (T. 471)

The button f-2 and the ring g would be bridged by the arm 34, completing a circuit. This circuit will cause the magnet holding arm 4 in such a position as to maintain contacts 10 and 11 bridged to be de-energized, thereby releasing the arm 4 and breaking the contacts 10 and 11, *de*energizing the pole-changing switch and stopping the motor. At the same time solenoid e-2 on push-button a-2 will be energized, causing this relay to- re-set. (T. 472)

Describing what happens when you push the floor button, assuming that floor button i-3 has been pressed to stop the car at the third floor in the down direction, the closing of this button will prepare a circuit or stop-

(Testimony of George N. Crabbe)

ping which will be completed when the contact f-3 on the selector s is in such a position that it is bridged by the number 34, with the ring g, thereby completing the stopping circuit, de-energizing the magnet, holding the switch arm 4 in position to bridge contacts 10 and 11, thus interrupting the circuit of the pole-changing switch and stopping the motor. At the same time solenoid m-3 will be energized, re-setting or opening push-button i-3.

(T. 472)

The operations I have described are sufficient to make clear the operation of the device from the drawings. I have read the Parker reissue patent, and I am familiar with the construction as shown in the drawings and specifications.

The witness was asked how the structure shown in the Parker patent compares with the construction and operation of the Otis Elevator Company's signal control elevators. Objected to as not the best evidence. Objection overruled. Exception.

The witness answered: They are the same. (T. 473)

I, as an engineer, could take the Parker patent and from it construct an elevator that would operate in the intended manner.

The Otis Elevator Company has installed signal control elevators in the Pacific Telegraph & Telephone Building and the Russ Building in San Francisco. I have seen the one at the Pacific Telephone & Telegraph Building. It operates and has the same construction and operation as the one in the Standard Oil Building in New York. I examined the installation of the defendants in the Pacific Finance in Los Angeles, on or about November 25, 1927.

(Testimony of George N. Crabbe)

I do not know of any other company that was putting out Signal control elevators or elevators which correspond to the structures described from the Parker patent or the Otis Signal Control previous to the time the Otis company put the first one out in February 1924. (T. 475)

The Pacific Finance Building is located at 621 Hope Street, Los Angeles. They have four elevators. They are the signal control.

Referring to the Pacific Finance Building elevators, which I examined on November 5, 1927, we saw an elevator installation where, within the car, was located an operating switch consisting of an operating lever, which was operated by an operator, a bank of buttons, annunciator lights, and various other switches for special uses. At each landing was an up and down button. In the penthouse over the elevators, located over the elevator hatchways, was, for each machine, a hoisting motor, a controller, a selector driven from the car, a motor generator set, and for the group of machines, four in number, there was a relay panel, the switches on this panel working on conjunction with the four controllers for the elevators. The car was started by means of the operator, after the door and gate had been closed, by operating a latch on the car switch lever. The placing of the lever in one position caused the car to ascend, and placing it in the other position caused the car to descend. Passengers entering the car and desiring to alight at various landings announced these landings on entering, and the operator pressed the button corresponding to that. (T. 477)

After the car had been started the operator returned the switch to the neutral off position. The car is now

(Testimony of George N. Crabbe)

proceeding, and when the floor is reached for which the car button was pressed, the car will automatically stop without any action on the part of the operator, and the doors will open, and the passenger can alight. In a similar manner, if a passenger at a landing had pressed a button—a prospective passenger, you might put that—if a prospective passenger at a landing had pressed a hall button for the direction in which the car was traveling, the car would stop at this floor in the same manner as it responded to the car button, without any action on the part of the car operator, thus allowing the passenger to enter the car. (T. 478, 479)

I, as a passenger, actually observed these operations and pushed the buttons for passengers on the occasion I refer to. (T. 479)

VOLUME 4.

LOS ANGELES, CALIFORNIA,
FRIDAY, APRIL 5, 1929.

(T. 480)

The Master: With respect to plaintiff's application for an order to require the production of certain drawings alleged to have been used by the defendant, Llewellyn Iron Works, in the installation of an elevator or elevators in San Diego, I am satisfied that plaintiff is entitled to such an order unless there is a showing that the drawings contain trade secrets or matters of that kind.

Counsel for defendants stated that he would look up the drawings and ascertain what they were and possibly desire to offer proof before final ruling. (T. 486)

(Testimony of George N. Crabbe)

GEORGE N. CRABBE,

Direct examination resumed.

I have seen elevators of the Pacific Finance Building installation of four elevators when only one elevator was in operation and the car operated in the same manner as when a greater number were in operation, that is, the car was started by the operator by means of a car switch and was stopped by either pressing buttons in the car or at the landings. The stopping under these conditions was automatic. The operation of each of the four elevators installed was the same as the others.

I had examined in a general way the blueprints that had been furnished in connection with the defendants' installation in the Pacific Finance Building, which are in evidence as Plaintiff's Exhibit 4-I to X, prior to examining the elevators in November, 1927, and I have carefully examined those drawings since that time.

I understand the construction and operation of the various circuits and the mechanism disclosed by these schematic drawings. These drawings do not show the details of mechanical construction; they are only schematic. Drawings of this type which are ordinarily called wiring diagrams are always schematic. From these the engineer can understand how to make an elevator, provided he is familiar with elevator construction.

(T. 488)

From my examination of these schematic diagrams, Plaintiff's Exhibit 4-I to X, inclusive, I find they are the same in construction and operation as the Pacific Finance elevators which I saw in November, 1927.

(Testimony of George N. Crabbe)

MOTION TO STRIKE on the ground that the witness does not know of the wiring in elevators. Denied.

Mr. Lane called attention to the stipulation whereby defendants admitted that the drawings correctly represent to the extent which they show the installation of the four elevators at the said Pacific Finance Building in Los Angeles, made by the defendant, Llewellyn Iron Works.

(T. 489)

I had schematic drawings made of the manual selector machine used in connection with the elevators installed in the Pacific Finance Building, The selector was located in the pent house above the elevator controller, mounted on I beams. There was one for each elevator. Plaintiff's Exhibit 5 is a diagrammatic sketch of the selector machine.

Plaintiff's Exhibits 4-I, II, III, IV, V, VI, VII, VIII, IX, X, and Plaintiff's Exhibits 5, 6, 7, 8, and 9, offered and received in evidence.

I also have a sketch showing the car control panels placed in each of the elevators in the Pacific Finance Building in Los Angeles. Plaintiff's Exhibit VI shows this car switch diagrammatically. It also has the Roman numeral XII on it.

It took me about two weeks to analyze sufficient to enable me to write a description of Plaintiff's Exhibit 4 in which are the wiring diagrams of the Pacific Finance installation. I doubt if anyone under the circumstances could have done it in less time. As I recall, there are thirteen floors and the basement in the Pacific Finance Building.

(Testimony of George N. Crabbe)

I have prepared a schematic drawing of the Pacific Finance elevators with a view to comparing them with the Parker patent. The drawing shown me first is a schematic diagram of the defendants' signal control elevators in the Pacific Finance Building which I prepared from the wiring diagrams which were furnished us by the Llewellyn Iron Works, Plaintiff's Exhibit 4. I also took into consideration my knowledge of the operation of the elevators. (T. 493)

I have prepared a written description of it.

(T-494)

The schematic drawing of the Pacific Finance elevators referred to by the witness was offered and received in evidence as Plaintiff's Exhibit 16.

MR. L. S. LYON: We object to this exhibit unless there is some evidence that it is a correct diagram of the defendant's operation. If it isn't vouched for to be correct, it shouldn't be received in evidence.

THE MASTER: You may interrogate the witness now as to that matter, and we will dispose of it.

MR. L. S. LYON: I don't care to ask him. If counsel doesn't care to ask him if it is correct and establish that it is, I don't care to ask him. If he says it is, I object to it on the ground that there is no foundation laid for it.

THE MASTER: The objection will be overruled.

MR. L. S. LYON: An exception.

With this Plaintiff's Exhibit 16 before me, I will now describe the installation and operation of defendant's signal control elevators in the Pacific Finance Building, in Los Angeles, California.

(Testimony of George N. Crabbe)

The witness then read the following written description:

A DESCRIPTION OF SCHEMATIC DIAGRAM OF DEFENDANTS' SIGNAL CONTROL ELEVATOR.

This diagram illustrates schematically the defendants' signal control elevators installed in The Pacific Finance Building at Los Angeles.

These elevators are electrically driven and controlled. The starting is exclusively and only within the control of an attendant in the car, while the stopping is automatically attained by either push-buttons located in the car or push-buttons located at the landings.

The operation is as follows:

1. STARTING THE CAR IN THE "UP" DIRECTION.

When the operator moves the hand lever 3 to the right, the actuating lever 8 carries the contact plate 9 into bridging contact with the contact points 10 and 11, thus completing the primary or starting control circuit as follows:

A (Continuing) From the positive supply wire 12 through wire 14 and solenoid 50 through continuation of wire 14 to contact point 10, bridging contact 9, contact point 11, wire 15, solenoid 32, continuation of wire 15, solenoid 16, continuation of wire 15 to negative supply wire 13. This energizes the solenoids 50, 32 and 16.

Q BY MR. LANE: Will you in reading this, point out to the Master the lines? It will make it a little easier to follow.

A Solenoid 50 causes the separation of its contact points to break the circuit for the solenoid 37, which

(Testimony of George N. Crabbe)

was energized during the previous stop, restoring it to its normal de-energized position, as shown on diagram.

Solenoid 16 actuates the armature 22 to throw the contact arms 20 and 21, respectively, into circuit closing engagement with contact receiving members 23 and 24, thus completing a power circuit through the motor 17 in one direction, whereby the current enters from the positive supply wire 12 by way of the wires and parts 25, 23, 20, 18 and 27, and returns by way of the wires and parts 28, 19, 21, 24 and 26 to the negative wire 13, thus causing the hoisting drum 29 to be driven in a direction which will wind up the cable 30, and produce upward movement of the elevator car in the shaft.

Solenoid 32, by the closing of its circuit-making contact points, connects solenoids 16 and 32 to the positive supply line 12, by-passing the car switch contacts 10 and 11, thereby making it possible to return the car switch actuating lever 8 to neutral or off position, without interrupting the circuit of solenoids 16 and 32.

With the car switch in the neutral position the circuit for solenoid 50 is interrupted and its contact closed; the circuit for solenoids 16 and 32 is then as follows: from the positive wire 12, wire 14, wire 14a, through breaking contact 37 b, wire 60, making contact operated by solenoid 32, solenoid 32, wire 15, solenoid 16, continuation of wire 15 to negative supply line 13.

The car, having been started in the up direction by the operation of the car switch, will continue until it is automatically stopped by the pressing of either a car button or hall button.

(Testimony of George N. Crabbe)

This is the second heading—No. 2. STOPPING THE CAR FROM A CAR BUTTON.

The operation of stopping the car when the car button a3 is pressed is as follows: The inward movement of the car button a3 throws the contact arm b3 into contact with the contact receiving member d3, thereby closing the manually controlled gap in the secondary control circuit so that the current may flow from the negative supply wire 13 through the wires and parts, wire 35, parts d3, b3, c3, wire h3 to contact point f3 on switch plate S of the selector or automatic closing means for the secondary control circuit.

The car button when pressed remains in a closed position until reset by car button solenoid e, the circuit of which is momentarily closed by contacts on doors of top and bottom floors, and so indicated on drawing.

As the car ascends the shaft the brush 34 on switch plate S will move toward the contact point f3 at the same rate as the car moves toward the floor level 3. As the car approaches floor lever 3 said brush will contact with the point f3 bridging this contact with ring g causing current to flow in the secondary control circuit through brush 34, contact ring g and thence through wire 36, breaking contact operated by solenoid 32′, top coil of solenoid 37a, wire 62, breaking contact 37D operated by solenoid 37, wires 14a, 14 to positive supply line 12.

This energizes solenoid 37a, closing its contact and completing a circuit for solenoid 37 as follows: From positive supply line 12 through wire 63, contact operated by solenoid 37a, wire 64, solenoid 37, wire 65, contact operated by solenoid 50, wire 66 to negative supply line 13.

(Testimony of George N. Crabbe)

Solenoid 37 on being energized causes the engagement of its making contact to establish its own holding circuit by wires 63a and 64a, and also, by opening of its breaking contact 37b, interrupts the primary control circuit, de-energizing the solenoids 16 and 32, resulting in the automatic stopping of the car at the third floor level by shutting off the current to motor 17.

Subject No. 3. STOPPING THE CAR FROM AN "UP" HALL BUTTON.

Assuming now that a passenger standing at the second floor level awaits an ascending car desiring to enter the same for travel to a floor above, he may cause the car to automatically stop at said second floor, to take him on, by actuating the up button i2, which throws the arm j2 into engagement with the contact receiving member 1-2, establishing a circuit through solenoid I_2 as follows: From negative supply line 13, wire n2, parts K2, j2, l_2, wire o_2, solenoid I_2, breaking contact operated by solenoid m2, wire 68 to positive supply line 12.

Solenoid I-2 on energization establishes by means of contact I-2b a holding circuit for itself by-passing points l_2 and j2 on push-button i2 permitting this button to be released without interrupting the circuit of solenoid I-2, the circuit for solenoid I-2 being as follows: From negative supply line 13 through wire 67, contact I-2b, solenoid I-2, breaking contact operated by solenoid m2, wire 68 to the positive supply line 12.

The operation of solenoid I-2 closes one gap of the secondary control circuit as follows: From the negative supply line 13, through wire 67, contact I-2a, solenoid m2, wire r2, to contact f2 on switch plate S.

(Testimony of George N. Crabbe)

As the car ascends the shaft the brush 34 on switch-plate S will move toward the contact point f2 at the same rate as the car moves toward the floor level 2. As the car approaches floor level 2 said brush will contact with point f2, bridging this contact with ring g causing current to flow in the secondary control circuit through brush 34, contact ring g and thence wire 36, breaking contact operated by solenoid 32′, top coil of solenoid 37a, wire 62, breaking contact 37d, wires 14a, 14 to positive supply line 12.

This energizes solenoids 37a and m2. The former closes its contact and completes a circuit for solenoid 37 as follows: From positive supply line 12, through wire 63, contact operated by solenoid 37a, wire 64, solenoid 37, wire 65, contact operated by solenoid 50, wire 66 to negative supply line 13.

Solenoid 37 on being energized causes the engagement of its making contact to establish its own holding circuit by wires 63a and 64a, and also, by opening of its breaking contact 37b, interrupts the primary control circuit, de-energizing the solenoids 16 and 32 resulting in the automatic stopping of the car at the second floor level by shutting off the power to motor 17.

The energizing of the solenoid m2 interrupts the circuit of solenoid I-2, resetting its contacts.

Subject 4: OPERATION IN "DOWN" DIRECTION.

To start the car in the "down" direction the operator moves the hand lever 3 to the left, thereby bridging contacts 10′ and 11′ by contact plate 9′ and thus completing the primary or starting control circuit.

(Testimony of George N. Crabbe)

The circuits can be followed by using the previous description and substituting characters and numerals with prime marks for similar wiring and parts.

The operation of stopping the descending car when either a car button or a hall button is pressed is similar to that described for an ascending car and the circuits can be followed by using the previous description and substituting characters and numerals with prime marks for similar wiring and parts.

Q I wish that you would take these ten blueprints constituting Plaintiff's Exhibit 4, I to X inclusive, and Plaintiff's Exhibits 5 and 6 and explain them to the Court in sufficient detail to enable him to understand the construction and operation of the elevators made in accordance with these schematic prints at the Pacific Finance Building in Los Angeles that you have referred to; and in doing so please refer to the various sheets which I have had marked "I" to XII both inclusive, and also the diagrams appearing on these prints so far as it is necessary.

A The Pacific Finance Building is located in Los Angeles at 621 South Hope Street between Sixth and Seventh Streets. It is a 13-story and basement office and bank building. The elevator equipment consists of four gearless traction machine for a duty of 2500 lbs. at 600 FPM installed by the Llewllyn Iron Works. The elevator machines are manufactured by the Westinghouse Electric and Manufacturing Company of East Pittsburgh and are marked 40 HP, 230 volts, 160 Amps., 64 RPM, Frame 215. No. 3, machine has serial #4404998. The serial numbers on the other machines were not taken. They

(Testimony of George N. Crabbe)

are 8 pole motors without interpoles and are roped 1:1 using a 36" driving sheave, 6-5/8" ropes. The control system is variable voltage, signal control with self-leveling.

Each elevator motor obtains its current from a motor generator set of Westinghouse make consisting of a generator marked 25 KW, 230 Volts, 109 Amps., 1750 RPM, 40° Cccontinuous rating, Style LA—10665; an induction motor marked 32 HP, 220 Volts, 3 Phase, 60 Cycles, 1750 RPM, Type C. S., Style LA—10685 and an exciter marked 3.5 KW, 230 Volts, 15.2 Amps, 1750 RPM, Frame SK 33, Style LA—10685.

The set is of standard Westinghouse manufacture having two bearings. Westinghouse bedplate on which the exciter frame is also supported. The generator has four poles and interpoles and is provided with series field, shunt field and a damper field winding. The exciter is compound wound. The motor generator sets are started by means of magnet operated starters having one step of resistance, and the starters are interlock by a sequence device so that only one set may be started at the time.

The controllers which are made by the Llewellyn Iron Works consist of a composition panel 42"x63"x1" thick on are mounted 49 magnet switches, one 8-pole throw-over switch, a two-pole knife switch and a push button. Back of each controller is placed a reactance coil in a sheet iron box; this reactance coil is permanently connected in series with the generator shunt field. The magnet switches on the controller have copper to copper contacts and are apparently of Cutler Hammer make. There are also 68 resistance tubes and one bank of cast iron re-

(Testimony of George N. Crabbe)

sistance. In addition to the above controllers of which there is one for each elevator, there is a master panel containing 67 magnet switches used for signals and floor selection. This panel also has a double pole, double throw knife switch for connecting either one of the two 14 volt generators used for signals and two hand-operated rheostats for regulating the voltage of the signal generator.

Each elevator machine is provided with a selector machine used for floor selection, slow down, leveling and stopping. These selectors which are made by Llewellyn Iron Works are mounted on I beams above the machine and controllers and are driven by a 5/16" rope connected to the car. The overall dimensions are about 3' —0" x 3'—0"x 5'—0". The selectors comprise a central stationary screw about 3-1/2" diameter mounted in two heavy end frames. On this screw is mounted successively the rope drum for driving the selector, the leveling drum, the slow down drum and the selector drum. The rope drum is about 24" diameter by 12 1/2" face and is grooved for a 5/16" rope. The rope pitch, 3/8", is the same as the pitch of the central screw so that the rope lead remains the same as the drum travels along the screw.

The leveling drum is directly connected to the rope drum. It has a diameter of 24" with a 12" face on which is a square thread of the same pitch as the center screw. In this thread is clamped 14 cams spaced in accordance with floor heights. These cams engage with the rollers of the leveling contactors.

There are four leveling contactors having one contact each mounted on the frame and around the lower half of

(Testimony of George N. Crabbe)

the drum, two for each direction of travel. Each contactor is provided with a magnet which, when energized, pulls the roller into position for engagement with the cams leaving the contact open. When the coil is energized and the roller in contact with a cam, the contact is closed. During the leveling, the slow speed contact roller will first leave the cam, opening its contacts and causing slow leveling speed; later the stop contact roller will leave the same cam, opening the reversing switch circuit and causing the machine to stop. If the car overruns, the opposite contact will be made by the other end of the cam causing the machine to reverse. After the car has come to a stop it takes the leveling contactors from two to four seconds to drop out. This time lag permits reversal.

The slow down drum has a diameter of 24" with a 12" face threaded in the same manner as the leveling drum. It is driven from the leveling drum through a double gear reduction at about half the speed of the leveling drum. The slow down drum has clamped on its surface 14 cams, i. e. one for each floor. Each cam covers about 3/4 of the circumference.

Mounted on the frame and around this drum are 6 studs with 2 contactors on each. Each contactor has one insulated contact normally open, which is closed when roller engages the cam. There are three contacts for each direction, one set of six contacts used for even numbered floors, the other set used for odd numbered floors. This arrangement is necessary in order to avoid interference of cams. These contacts are used for slowing down the elevator as will be described later.

(Testimony of George N. Crabbe)

The selector drum is about 30″ in diameter, 6″ face. This drum has no lateral motion and is driven from the slow down drum through a double gear reduction about 15:1 so that it makes slightly less than one revolution during the whole car travel. Mounted on the frame and around this drum are placed 14 studs corresponding to the 14 floors. Each stud carries two double insulated contacts except top and bottom stud which have only one each. The contacts are arranged in two planes and are operated by two short cams which momentarily close the contacts as they pass under the rollers. The contacts are used for floor selection. Sketch #1 shows diagrammatically (Plate XI) the construction of selector.

Above the selector is mounted a signal commutator machine driven by a sprocket chain from the rope drum (Plates I and VI). The current for the signal machine is derived from two 14 VOLT 1/2 Kilowatt motor generator sets of Westinghouse make, one of which is used, subject to the throw-over switch on the master panel.

The operating equipment in the car consists of a long hinged brass panel about 5′-6″ high and 12″ wide containing a car switch with a lever for starting the car in either direction depending on which way the lever is moved. The car switch lever (Plates III and X) is provided with a latch on the handle for operating the pneumatic door mechanism; when the latch is pressed the doors close. If during closing of doors latch is released, doors will immediately reopen. When doors are closed lever may be moved to running position and car will start. After the car has started, the switch handle may be released completely and when the car has come to a stop

(Testimony of George N. Crabbe)

the doors will open automatically. The doors are operated by a pneumatic closer. In addition to the car switch, the panel contains a position indicator consisting of a vertical row of numbered lights, one for each floor, an up and down annunciator, a starting switch for the motor generator set with pilot light, car button non-stop switch, a next floor stop button, an emergency switch, a stop button, a door by-pass switch, a slow speed switch, car light switch, a hall stop button, a door trip, annunciator switch, manual reset for annunciator, mechanical reset for car buttons and a switch for changing from automatic to manual operation. See Sketch #2 (Plate XII).

On top of the car is mounted a cam-operated slow down switch of usual construction.

The operation, as observed from riding in the car was as follows:

The car (#3) was at the ground floor, the hatchway door and car gate were open and the platform was level with the landing. As the passengers entered the car they called their floor and the operator pushed the corresponding button. The button stayed in the depressed position. On receiving a signal from the starter, the operator pressed the latch on the car switch handle, thereby causing the door and gate to close. After the door and gate had closed, the operator moved the car switch handle momentarily to the up position, the car started, accelerated and ran at full speed. The operator had in the meanwhile brought the car switch handle back to center and had taken his hand off. The car continued to run at full speed until within about 12 to 15 feet from the nearest floor for which a button had been pressed. It then auto-

(Testimony of George N. Crabbe)

matically slowed down and stopped level with that floor. As a rule, the car did not overrun the landing but if this occurred, the car automatically reversed and returned to the floor.

When the car was close to the landing, the door and gate automatically opened. After the passengers for this particular floor had left, the operator again closed the door and gate by means of the car switch latch, moved the handle to the up position and this operator was as described above. During the run, the position indicator showed the position of the car by successively illuminating the numbered lights.

Any person above the first floor desiring to go up, pressed the up hall button. The pressure of this button caused the car to stop automatically at that floor; it also lighted the up hall lights and the up annunciator light in the car corresponding to this floor. When the car was about a floor distance from any landing at which a stop was to be made, the operator's flashlight in car lighted, warning the operator of the stop.

On arriving at the top floor, all the car buttons which were depressed were automatically reset. For the down trip the same operation took place at the ground floor. It

(T. 508)

was possible for the operator to reverse the direction of the car at any floor, but if the car was reversed at any other position than first or top floor it was necessary to reset the car buttons by hand. A button is provided for this purpose.

We also saw the car operated entirely by the car switch with the automatic control cut out. When running in

(Testimony of George N. Crabbe)

this way the car did not self level, and it was difficult to stop the car accurately at any floor.

The detailed operation of the control is described below.

DESCRIPTION OF CONTROL OPERATION.

The following diagrams were furnished by Lyon and Lyon, attorney for the Llewellyn Iron Works and were delivered to us by Mr. Frank L. Sessions on November 4th, 1927.

There are four (4) schematic diagrams, all having the following markings:—

48-73215 Pacific Finance Building
Llewellyn Iron Works
Los Angeles, Cal.

and individual markings as follows:

SK-500-239-A Date 12-1-25
Signal System Automatic Stop Elevator.

SK-500-239-B Date 2-3-26
Automatic Stopping Circuits, automatic stop elevator.

SK-500-239-C Date 12-1-25
Main Control Circuits, Auto. Stop elevator.
(T. 509)

SK-500-239-D Date 12-1-25

DESCRIPTION SLOW-DOWN AND A. C. POWER CIRCUITS.

Automatic Stop elevator.

There are six (6) manufacturing and erection diagrams having the common marking "Pacific Finance

(Testimony of George N. Crabbe)

Bldg. 48-73215-1-20-26" and the following individual markings.

Drawing No. 400-330-A Date 11-16-25
Automatic Stop Elevator
Master Panel.

Drawing No. 400-330-B Date 11-12-25
Automatic Stop Elevator
Signal Machines.

Drawing No. 400-330-C Date 11-17-25
Automatic Stop Elevator
Car Switch and Starter's Panel

Drawing No. 400-330-D Date 1-18-25 (Indistinct)
Automatic Stop Elevator
Hall Lights—call buttons

Drawing No. 400-330-E Date 1-20-26
Automatic Stop Control
Wiring diagram

Drawing No. 400-330-F Date 12-9-25
General diagram Automatic
Stop Elevator.

These Pacific Finance Building elevators are normally operated in a manner where the operator controls only the operation of the doors and gate, and the starting of the car, the stopping of the car being automatic and the selection of the floor at which the car stops being determined by hall push buttons or by buttons in the car operated by the operator when the passenger names the floor desired. This operation is known as signal control. These elevators may also be operated entirely by car switch control.

The change from one method of operation to the other is accomplished by a multipole double throw magnet-oper-

(Testimony of George N. Crabbe)

ated switch mounted on the elevator control panel, and operated by a switch in the operating control panel in the car. The top contacts of the switch when closed give the signal control operation and are marked "automatic". The lower contacts, which when closed give the car switch operation, are marked "manual". The design of this switch is such that it is either in one position or the other. It is operated by two electro-magnets which require only momentary energization, one magnet places it in the "automatic" position and the other magnet places it in the "manual" position.

When the car is controlled by the car switch, only, there is no automatic self-leveling and the operator has but two operating speeds, which makes the car difficult to control at landings.

In this description only the automatic operation will be considered.

To facilitate reading the schematic wiring diagrams 500-239-A, 500-239-B, 500-239-C and 500-239-D we have divided these diagrams into sections indicating them horizontally by means of numerals, and vertically by means of letters. We have also made up a table, page 88, indicating in which section the coil and each contact of a switch may be found. On these diagrams the coils themselves have no identifying mark, the contact alone being marked. We have, therefore, identified the coil by the base marking of its contact, e. g. if the contacts of a switch are marked LFI and LF2 we have called the coil in the table LF.

The location of a coil or contact is indicated by a symbol composed of two letters and a numeral. The first letter indicates the diagram on which the part is shown; due to the fact that all of these diagrams have the same base number, viz. 500-239, we have used only the final letter, for example, the letter "C" indicates 500-239-C,

(Testimony of George N. Crabbe)

"A" indicates diagram 500-239-A, etc. The numeral indicates the location of the section horizontally and the second letter (third character) locates it vertically. Thus C-1-E reads diagram 500-239-C section 1-E.

The notation in brackets after the symbol locating a contact is the marking given this contact on the diagram. The exception to this is the notation "AUX" for the making contacts #2 and #3 for switch "M". Here the notation indicates an auxiliary contact which has no marking.

The contact RIU diagram 500-239-A is the contact of the reset relay for floor relay HRIU. (1st floor up). The coil is shown in section 2-A on the diagram but not marked. The contacts for R2U (2nd floor up) and for R3U (3rd floor up and shown on diagram) but the coils are not indicated.

The last column (page 88) indicates on which of the standard diagrams, having base #400-300, a particular switch is shown, the letter as before being part of the drawing number.
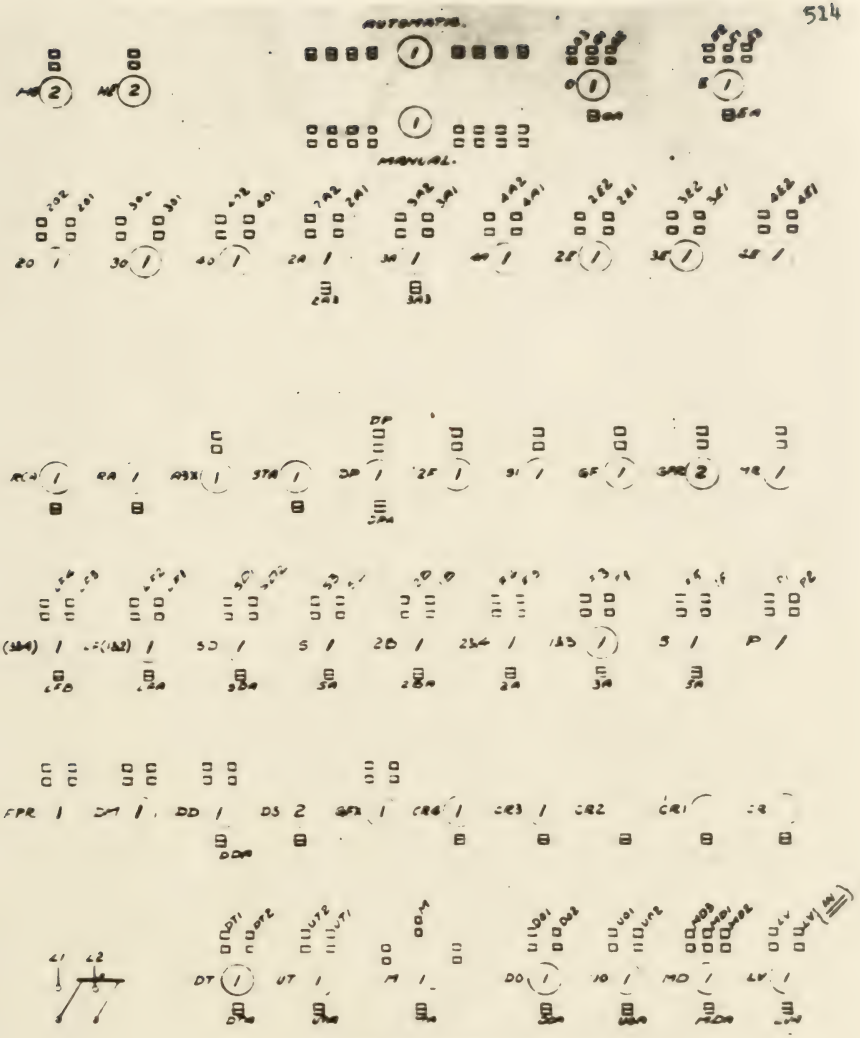
To readily find the location of any switch or contact on drawing 400-330-E we have made a diagrammatic sketch, page 513, indicating the number of contacts on each switch, whether normally open or closed, and the number of windings on each coil. Making contacts are indicated by two squares, one above the other, breaking contacts by one square with a line through the middle, and the number of windings on a coil by a numeral in the circle indicating the winding.

(T. 515)

(Photos.)

INDEX TO SWITCH COILS & CONTACTS DIAGRAMS WITH BASE NO 500-239

COIL NAME	LOCATION	LOCATION OF MAKING CONTACTS #1	#2	#3	LOCATION OF BREAK CONTS.	DIAGRAM OF BASE NO 400-330 ON WHICH SWITCH IS SHOWN
1&3	C-2-G	C-2-D (11)	C-3-E (3)		C-3-E (2A)	E
1RA	D-2-C				D-2-A	E
2&4	C-2-G		C-3-D (2)	C-2-E (4)	C-3-D	E
2A	D-1-D	C-3-H (2A)	C-D-E (2A1)		D-2-A	E
2B (1A)	C-3-G	C-1-B (1B)	C-4-B (2B)		C-3-B	E
2E	D-1-B	C-2-C (2E1)	D-1-D (2E2)			E
2F	C-4-H	C-1-B				E
2G	D-1-B	C-2-D (2G1)	D-1-D (2G2)			E
3A	D-1-D	C-1-D (3A1)	C-1-C (3A2)		D-2-A (3-3)	E
3E	D-1-B	C-1-C (3E1)	D-1-D (3E2)			E
3G	D-1-B	C-1-D (3G1)	D-1-D (3G2)			E
4A	D-1-D	C-1-D				E
4E	D-1-B	C-1-C (4E1)	D-1-D (4E2)			E
4G	D-1-B	C-1-D (4G1)	D-1-D (4G2)			E
5 (1F)	C-2-H	C-3-E (5)	C-1-B (1F)		C-3-E (5A)	E
A3X	C-2-J	C-1-C				E
CR	C-4-E				C-1-F	E
CR1	C-4-E				C-4-F	E
CR2	C-4-E				D-2-A	E
CR3	C-4-E				C-4-H	E
CR4	C-4-E				C-2-I	E
DD	C-2-C	C-1-E DD			C-1-F DD	E
DM	D-2-A	C-1-F				E
DO	C-2-F	C-1-G (DO1)	B (DO2)		B (DO3)	E
DP	C-4-H	C-4-H			C-2-D (DP1)	E
DS	C [illegible]				C-4-H	E
DT	C-2-G	C-1-E (DT1)	D-1-A (DT2)		C-2-C (DT4)	E
E	B	B (E1)	C-3-H (E2)	D-1-B (E3)	B (E4)	E
FPR	C [illegible]	C-3-G				E
GF	C-2-E	C-2-H				E
GFR	C-2-B	C-1-D				E
GFX	C-4-E	C-2-C				E
HE	B	B				E
HO	B	B				E
HR1U	A [illegible]	A-1-B	H-1-C	A-1-D		E
HR2U	A [illegible]	A-1-A	A-1-C	H-1-D		E
HR3U	A [illegible]	A-1-H	A-1-B	A-1-D		E
LF (2&2)	D-2-A	C-2-D (LF1)	C-3-E (LF2)		C-2-D (LF3)	E
LF (3&4)	D-2-A	C-1-D (LF3)	C-2-E (LF4)		C-2-E (LF5)	E
LV	D-2-A	D-2-B			C-1-G (LV4)	E
M	C-3-H	C-4-E	C-3-G (M1)	C-3-B (M2)	C-4-E (M3)	E
MD	C-3-F	C-2-H (MD1)	D-2-H (MD2)	C-1-H (MD3)	C-1-E (MD4)	E
MR	C-3-D	C-2-H				E
NDR	A-1-A	A-1-C				A
N3 (1N3)	A-1-A	A-2-A (N3)	A-2-D (N3A)	A-2-C (N3B)		A
O	B	D (O1)	C-3-H (O2)	D-1-D (O3)	B (O4)	E
P	C-2-C	C-1-B (P1)	C-4-B (P2)			E
PL (1PL)	A-2-C	A-1-D (PL1)	B (PL2)			A
RIU	A-2-A				A-1-B	A
RSA	C-2-C				B	E
S	C-1-B	E-1-B (S1)	C-2-F (S2)		C-2-D (S3)	E
SI	C-4-B	C-1-D				E
SD	C-3-H	D-1-A (SD1)	D-2-A (SD2)		C-1-C (SD3)	E
STA	C-4-H				C-1-C	E
UO	C-2-F	C-1-G (UO1)	B (UO2)		B (UO3)	E
UT	C-2-G	C-1-F (UT1)	D-1-C (UT2)		C-2-C (UT3)	E



SKETCH
SHOWING LOCATION OF CONTROL SWITCHES.
MADE FOR DRAWING 440 - 330 - E.
REAR VIEW OF PANEL.

(Testimony of George N. Crabbe)

STARTING THE CAR

It is assumed that the motor generator set has been started by the switch in the operating control panel in the car, marked "power", that the two pole, single throw knife switch in the lower right-hand corner of the control panel is closed, and that the multipole double throw switch on the control panel is placed for "automatic" operation. Then, referring to wiring diagram SK-500-239-C, the contacts of the multipole switch marked LS will be closed and those marked MS will be open. Also the circuits for the potential switch "P" will be closed through the safety devices and the circuit for the standing field of the elevator motor F1-F2 and relay FPR will be closed through a resistance. The fact that the motor generator set is running means that contacts AM-3 on the M. G. starting switch and 3-R on the M. G. running switch are closed. The emergency switch in the car is also closed and therefore the elevator is ready for operation.

The references in brackets used throughout the description are for the purpose of readily locating the contacts, coils, etc. on the four Llewellyn Iron Works schematic diagrams having the base Number SK 500-239. The first letter indicates the sub-letter of "sketch" or "sheet"; the figure indicates the vertical section and the second letter the horizontal section into which the diagram is divided. Thus (C-1-B) indicates SK 500 239-C, figure 1 vertical section, B horizontal section.

I Pressure on the car switch lever will connect contacts DU and DT (C-1-D) energizing relays RCA and DD (C-2-C).

(Testimony of George N. Crabbe)

a RCA interrupts a self-holding circuit of relay O or E used in the previous stop. SK 500-239-B

b DD opens the circuit of the door opening magnet (C-1-F) and makes the circuit for the door closing magnet, (C-1-E). (Note the interlocks on the door magnets are interchanged on diagrams). This magnet operates an air-valve which causes the door to close and when the magnet has operated the valve, it opens an interlocking contact in its own circuit removing power, and at the same time, closes another contact in the circuit of the door closing magnet (C-3-F). If this lever be released while door is closing the circuit of DD will be interrupted making circuit of door opening magnet and cause door to reopen.

II When door is closed, if car switch is placed in the running position, up direction, line DU will be connected to DT keeping the door closed, and also to IU and contacts 2 and 3 (C-1-E).

Circuit of relays MD and UO will be completed by contact 1U (C-2-F) and (C-3-F) and circuits of S1, S and A3X will be completed by contacts 2 and 3 respectively. (C-4-I) (C-3-1) (C-2-I). (Slow speed switch in cars is closed).

a MD will energize relays 5 (1F), M, 2F and DS (C-2-H) (C-3-H) (C-4-H) and (c-3-G).

The breaking contact 5A has no function with automatic operation.

#5 contact places a resistance in parallel with the generator field which is later broken by the reversing switch and therefore has no effect at start but may be effective

(Testimony of George N. Crabbe)

at stop when reversing switch drops out and #5 is still closed. (C-3-E).

1F short-circuits resistance in series with the standing field of the elevator motor shunt field (C-1-B).

"M" removes the by-pass from across the elevator motor armature and connects elevator motor armature and generator armature together (c-4-E). One auxiliary contact is in the common wire to the reversing switch (c-3-G) and another places a parallel resistance across the brake (C-3-B).

2F connects in the starting field of the elevator motor (C-1-B.)

DS coil, though energized, will not operate the relay unless door or gate contacts are open, energizing the second coil (C-1-G).

b UO in closing energizes reversing switch 1 and 3. brake relay 1B and 2B and relay UT (C-1-G), 1 and 3 energizes the generator field (C-2-D) (C-3-E) and opens the circuit of the parallel resistance placed across the field by #5 contact (C-3-E).

2-B energizes the brake also relays MR and one coil of GFR (C-2-B) and opens resistance circuit across brake coil by contact 2-BA (C-3-B).

UT establishes a self-holding circuit for the reversing switch around the car switch (C-1-F), and interrupts circuit of relay RCA preparatory to stopping. (C-2-G).

c Switches S and S-1 in closing, short-circuit resistance in the generator field (C-1-D). Contact 3-3 on relay S short-circuits switch GF and prevents it from operating. (C-2-F). A3X operates but no function at start or when running.

(Testimony of George N. Crabbe)

III The brake in lifting opens the contact on the brake and energizes the second coil of GFR, shorting more generator resistance (C-2-B). MR closes and establishes a feed for switches M and 2F in parallel with the one through MD1 (C-2-H).

IV Relays CR, CR1, CR2, CR3, CR4 and GFX operate on armature voltage. (C-4-D) (C-4-E).

CR is set to fall out at some predetermined voltage and prevents door being opened unless elevator is running at slow speed. (C-1-F).

CR1 is set to operate at a certain voltage and inserts a resistance in the auxiliary reversing switch circuit (C-4-F).

CR2 prevents leveling operation until motor has slowed down (D-2-A).

CR3 set to operate at a predetermined voltage and opens circuit of switch 2F (C-4-H).

2F cuts out starting field and increases speed of elevator motor (C-1-B).

CR4 deenergizes A3X which has no effect in starting (C-2-I).

GFX short-circuits more resistance in the generator field (C-2-C).

The machine is now running at full speed.

(T. 519)

STOPPING FROM CAR BUTTON (5th floor).

Assuming the car button for the 5th floor has been pushed (SK-500-239-B), it is held in mechanically.

When the contact of the master switch for this floor (See diagram SK-500-239-B) closes, it momentarily

(Testimony of George N. Crabbe)

makes circuit for relay HO through the car non-stop button.

a. HO energizes relay O which operates and becomes self-holding and breaks the circuit of HO. A contact of relay O makes circuit for relay SD, STA and DP (C-4-H).

SD cannot operate as the resistance in series is too high (C-3-H).

STA inserts resistance in generator field and slows down elevator motor (C-1-C).

DP completes circuit for 2F which puts starting field of elevator motor back in circuit thus slowing elevator motor down still more (C-4-H).

Another contact of O makes one side of circuit for relay 20, 30, and 40 (D-1-B) but these do not operate yet.

When the cams of the slow down switch close the three contacts, switches 20, 30 and 40 will close and cause switches 2A, 3A and 4A to close. The closing of these switches has no effect as the resistance which they short-circuit is already short-circuited by contact SDA (C-1-C). When 2A closes it short-circuits the resistance in series with SD (C-3-H) causing this switch to operate and remove its short circuit from the generator field resistance (C-1-C). When the first contact rolls off the cam it opens circuit of switch 40 (D-1-B) which inserts resistance in series with generator field (C-1-D) and interrupts circuit of switch 4A-(D-1-D). This switch 4A opens and inserts still more resistance (C-1-D). If load is such that relay CR4 drops out it will cause A3X to operate and short-circuit resistance inserted by 40 and also that inserted by STA.

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When second contact leaves the cam it drops switch 30 (D-1-B) which inserts more resistance in generator field (C-1-D) and also drops switch 3A which inserts still more resistance (C-1-D). Switch 3A also makes the circuit for the switch retiring coils provided CR-2 has dropped (D-2-A).

The third contact in leaving the cam drops switch 20 (D-1-B) which in turn drops 2A (D-1-D) and they each insert resistance in the generator field (C-1-D). Switch 2A also makes circuit for switch LV (D-2-A).

At the time that the third stopping contact opens and makes the circuit for switch LV (D-2-A) both leveling contacts have closed by their cams and switch LV opens the holding circuit of the reversing switch (C-1-G) and establishes a new circuit for it through the leveling switch contacts (D-2-B). The other contact of the leveling switch causes switch IRA to operate (D-2-C) and prevents switch LF and DM from operating.

As the car continues to move, the first leveling contact will roll off the cam and open, deenergizing switch IRA (D-2-C), which will cause switches LF (1 and 2), LF (3 and 4) and DM to release.

The coils of switches LF (1 and 2) and LF (3 and 4) are connected in series (D-2-A) and the function of these two switches appears to be to still further slow down the elevator motor although just how it is done cannot be positively determined either from the wiring diagram or from observing the operation. Contacts LF1 and LF4 (C-2-D) and (C-2-E) connect a damping winding on the generator in parallel with the generator shunt

(Testimony of George N. Crabbe)

field. It is not certain whether this damping winding is connected so as to assist or oppose the main winding, but the indicating is that it is connected in opposition.

Contact LF3 connects a resistance in parallel with that which is in series with the generator shunt field and contact LF2 short-circuits the resistance inserted by the stopping switch. This would increase the current in the generator shunt field, as well as the damping field which further indicates that the damping field must be connected in opposition to the shunt field.

The contact of relay DM short-circuits the contact of relay MI (MDA) (C-1-F) and causes the "Door opening" relay to function and open the door. The normally closed contact of relay, DD is closed as this relay, as well as relay RCA, was deenergized when the car switch was centered (C-1-D).

When the second contact on the leveling drum opens, it interrupts the circuit of switches #1 and #3, 2B and UT.

#1 and #3 opens the generator field.

2 B applies the brake.

UT opens the circuit of relays UO, MD, 20, 30, 40, 2E and 4E restoring these to their original condition.

Relay MR will be prevented from releasing immediately due to the fact that it is in series with the brake winding (C-3-B) and receives the discharge current from the brake. The time of lag varied from two to four seconds. Its function is to keep switches SD, STA and DP, 2F, and M energized to permit the leveling contacts to return the car to the floor within this time in case of overrun. Switch M disconnects the armature of the gen-

(Testimony of George N. Crabbe)

erator and elevator motor and places a by-pass resistance across the latter. The car is now stopped at the fifth floor.

STOPPING FROM HALL BUTTON

It is assumed that the operator has closed the "Hall Stop" switch in the car (A-1-A). This energizes relays NS and makes the operation from the hall effective. Referring to diagram SK-500-239A only one NS coil is shown marked (NS-1, NS-2 and NS-3) (A-1-A) and only one complete set of contacts are shown marked (#1NS1, #1NS2, #1NS3). The first number evidently indicates that these are the contacts of the NS coil for #1 car. One contact (#1NS1) is in the circuit of the reset coil of the floor relay (A-2-A); another #1NS2 is in the circuit of the hall light (A-2-D) and the third #1NS3 is in the circuit of relay PL (A-2-C). There is a relay marked PL for each car, the one shown on the diagram is for car #1 and marked #1PL the coil being marked (#1PL1, #1PL2, #1PL3, #1PLA) (A2-C). Another function of relay "NS" is to permit the operator to pass hall signals in case the car is loaded.

The floor relays (diagram SK-500-239A) are marked HR1U, HR2U, HR3U, etc. and HR1D, HR2D, HR3D, etc. The numbers 1, 2, 3, etc. indicate the floor numbers, "U" indicates up relay and "D" indicates down relay. The reset relays are marked R1U, R2U, etc. and R1D, R2D, etc.

For convenience in writing this description it will be assumed that an "Up" hall button at the third floor (marked H3U) (A-1-A) has been pressed. Relay HR3U has two windings, one, the operating winding, energized by pressure of the hall button, and the other the holding

(Testimony of George N. Crabbe)

winding, circuit for which is made by the closing of the relay itself (contact HR3U-1) (A-1-A). Relay HR3U has two other contacts marked HR3U-2 and HR3U-3. The first (HR3U-2) completes the circuit of the annunciator lights in all cars and also the one in the starter's panel (A-1-B). The other contact (HR3U-3) prepares the circuit for the "up hall" light at the third floor (A-1-D), and also energizes the segment on the signal machine preparatory to operating relay PL (A-2-C). (The diagram is somewhat confusing regarding the segments on the commutator or signal machine. The upper row of commutator machine segments (A-2-D) shown just above the hall lights are the same as those marked "contacts fed by selector relays" A-2-C. The brush on the commutator machine connects the flashlight strip to both the upper and lower row of segments (A-2-D).

Let it be assumed that the #1 car is the first to approach the third floor in the "up" direction. When it reaches a predetermined distance from the floor a brush of the commutator will connect the flashlight strip (A-2-C) to the commutator machine segments 1S3U (A-2-d) causing the hall light to be illuminated (A-2-D) and relay #1PL to operate (A-2-C). Relay #1PL has two making contacts. The first #1PL1 lights the operator's flash in the car (A-1-D), the other PL3 makes the feed to the master switch (diagram B).

From this point on, the stopping is the same as for stopping from the car (see page 94), except that the operation is for the third floor instead of the fifth floor. It will be noted that there are two contacts on each switch of the master switch, one of which completes the circuit

(Testimony of George N. Crabbe)

of switch HO when stopping from the car and the other makes the same circuit when stopping from the hall.

When the car leaves the third floor the brush on the commutator machine will connect its strip with the segment for #3 floor "up" (A-2-A) thus energizing the reset relay (R1U not marked) (A-2-A) which will operate and interrupt the holding winding of the floor relay HR3U (A-1-A) resetting this relay.

Note: Diagram SK-500-239A does not agree with diagram 4—330A in respect to the connections for relay PL. (T. 525)

The apparatus checked with diagram SK-500-239A and description is accordance with this diagram.

OPERATING PANEL IN CAR (Plate XII).

a Annunciator has a small snap switch above the lights which opens and closes the circuit for the lights.

b The "Hall stop button" has been explained above and can be used as non-stop to cut out stops from hall buttons.

c The "car button non-stop" switch is used to prevent stops by the car buttons.

d The switch marked "Fast" and "Slow" permits the operator to bring the car from normal to slow speed, with the automatic operation, in case it is necessary.

e The "next floor stop" switch permits the operator to stop at the next possible floor. It parallels the contact PL-3 of the PL relay, SK-500-239-B.

f The "stop button" is used to stop the elevator when operating on automatic operation and requires only momentary pressure.

(Testimony of George N. Crabbe)

g The "door by-pass" switch short-circuits the door and gate contacts to permit the operation of the car with doors and gate open in case of emergency.

h The "Door trip" is a mechanical device used in case the door operating device fails to function properly.

i Over the car buttons is a switch which is used to reset the buttons in case the car does not travel to the limits where the buttons are reset automatically.

(T. 527)

Q Does the description which you have just given of these numerals and the wirings which you have described in connection therewith correctly represent the actual installations that you saw at the Pacific Finance Building so far as the construction and operation is concerned?

A Yes, it does.

Q Have you caused to be made under your supervision a straight schematic diagram of the wiring shown in the Parker patent as applied to elevators?

A Yes, I have.

MR. LANE: This is offered in evidence as Plaintiff's Exhibit 7.

(Marked Plaintiff's Exhibit No. 7)

MR. LANE: There is marked with the Roman numeral "XIV" in the lower right hand corner.

Q Will you please describe this schematic wiring diagram and the operation of an elevator utilizing it?

A Yes. The straight wiring diagram (Plate XIV) is, so far as connections are concerned, an exact copy of the wiring diagram in the patent. The description in the patent reads directly on the straight wiring diagram. A brief description of the main features of operation as shown by this diagram is given below.

(Testimony of George N. Crabbe)

1. STARTING THE CAR IN THE UP DIRECTION

The car switch is moved into up position, closing up car switch contact 9. This completes the circuit for reversing switch magnet coil 16 and for magnet coil 32 as (T. 528) follows: from the positive or delivery wire 12, by wire 14, through contacts 10 and 11 bridged by contacts 9 in closed position, by wires 15 and 33 through coils 16 and 32 in parallel, to the negative or return wire 13. Coil 16, upon energization, causes the closing of contacts 20-23 and of contacts 21-24, completing the circuit for the armature 17 of the hoisting motor as follows: from the positive wire 12, wire 25, contacts 23-20, wire 27, armature 17, wire 28, contacts 21-24, wire 26, to the negative wire 13. The circuit connections for the motor being established, the motor starts and accelerates to full speed. The polarity of connections is such that the motor runs in a direction to raise the elevator car. Reversing switch magnet coil 16 is maintained energized by contact 9 which is held closed by magnet 32. Thus, the car switch handle may be released to off position without causing the stopping of the car.

2. STOPPING THE CAR IN RESPONSE TO A CAR BUTTON.

Assume that the car is moving in the up direction and that car button a3 is pressed. Upon being pressed, this button effects the engagement of a3 car button contacts b3-d3, these contacts being maintained in engagement mechanically. The engagement of these contacts prepares a stopping circuit which is completed by the selector or

(Testimony of George N. Crabbe)

switch plate. When the selector brush arm 34 engages the selector stationary contact f3 fed by car button contacts b3-d3, a circuit is completed for up deenergizing magnet coil 37 as follows: from the positive wire 12, by wire 14 through contacts 10 and 11 bridged by contact 9 in closed position, wire 35, magnet coil e3, contacts d3-b-3, wire h3, contact f3, brush arm 34, selector contact member g, wire 36, through coil 37, by wire 38 to the negative wire 13. The energization of up deenergizing magnet coil 37 effects the slowing down and stopping of the car. Magnet coil 37 and magnet coil 32 are on the same core and are wound to act in opposition. Thus, coil 37, upon being energized, neutralizes coil 32, resulting in the release of contact 9 which moves to open position. The opening of contact 9 deenergizes reversing switch magnet coil 16. As a result of the deenergization of coil 16, contacts 20-23 and contacts 21-24 open, disconnecting the motor armature 17 from the positive and negative wires 12 and 13 respectively, whereupon the motor is brought to a stop. Car button a3 is reset by car button reset magnet coil e3, this magnet coil being energized to effect the reset operation at the same time that the circuit is completed to initiate the stopping of the car, as may be seen from the circuit traced from magnet coil 37.

3. STOPPING THE CAR IN RESPONSE TO AN "UP" HALL BUTTON.

Assume that the car is moving in the up direction and that hall button 13 is pressed. Upon being pressed, this button effects the engagement of 13 hall button contacts

(Testimony of George N. Crabbe)

j3-13. These contacts are maintained in engagement mechanically. The engagement of these contacts prepares a stopping circuit which is completed by the selector. When the selector brush arm 34 engages the selector stationary contact corresponding to push button i3, a circuit is completed for up deenergizing magnet coil 37 as follows: from the positive wire 12, by wire n3 through magnet coil m3, contacts j3-13, wire o3, the corresponding car button contacts p3-b3, wire h3, contact f3, brush arm 34, selector contact member g, wire 36, through coil 37, by wire 38 to the negative wire 13. The energization of up deenergizing magnet coil 37 effects the slowing down and stopping of the car as explained above for a car button stop. Hall button i3 is reset by reset magnet coil m3, this magnet coil being energized at the same time that the circuit is completed to initiate the stopping of the car, as may be seen from the circuit traced for magnet coil 37.

Q Have you caused to be made under your supervision a very simple straight schematic diagram of the actual wiring shown in the blueprints, Plaintiff's Exhibit 4, I to X inclusive, that show the construction which is used in the installation of the Pacific Finance Building elevators?

A Yes, I have.

MR. LANE: Plaintiff now offers in evidence this very simple wiring diagram as Plaintiff's Exhibit No. 8.

(Marked Plaintiff's Exhibit No. 8.)

MR. LANE: This is marked with the Roman numeral "XV" in the lower right hand corner.

(Testimony of George N. Crabbe)

Q Will you please describe Plaintiff's Exhibit 8 and the operation of the Pacific Finance Building elevators using the wiring and construction there shown?

A Yes. The diagram (Plate XV) shows the basic principle of operation of the Llewellyn elevator in the Pacific Finance Building in Los Angeles reduced to the most elementary parts.

It shows schematically; means for connecting the elevator motor armature to the power supply in either direction by the reversing switch; means for effecting the operation of the reversing switch by manual operation of a car switch, which becomes self-holdings, so that the car switch handle may be released; secondary means for initiating the stopping of the car by pressing of buttons in the car or in the hall; and selectors for effecting the stopping of the car at the particular floors for which buttons have been pressed. The designation of the different parts follows as nearly as possible that used by Llewellyn Iron Works on Diagrams SK-500-239 (A, B, C, D).

Operation.

1. STARTING THE CAR IN THE UP DIRECTION.

The car switch is moved into up position, closing the up car switch contact. This completes a circuit for reversing switch magnet coil 1-3 and for magnet coil RCA as follows: from the positive wire, by wire 14 through coil RCA, by wire 15 through the contacts bridge by up car switch contact in closed position and through coil 1-3, to the negative wire. Coil 1-3, upon energization, causes the closing of contact 1 and of contact 3, completing the

(Testimony of George N. Crabbe)

circuit for the armature of the hoisting motor as follows: from the positive wire, wire 25, contact 1, wire 27, armature, wire 28, contact 3, wire 26, to the negative wire. The circuit connections for the motor being established, the motor starts and accelerates to full speed. The polarity of connections is such that the motor runs in a direction to raise the elevator car. Reversing switch magnet coil 1-3 is maintained energized by a self-holding circuit. Magnet coil RCA. upon energization, causes the separation of contacts RCA to break the circuit for magnet coil E which are energized during the last stop. The deenergization of coil E results in the separation of contacts E and the engagement of contacts E1 and of contacts E 2. The holding circuit for coil 1-3 is completed by the engagement of contacts E1 and of contacts 1-3, the engagement of contacts 1-3 being effected by the energization of coil 1-3. This holding circuit may be traced as follows: from the positive wire, by wire 33 through contacts E1 and contacts 1-3, by wire 15 through coil 1-3, to the negative wire. Thus, as reversing switch magnet coil 1-3 is maintained energized, the car switch handle may be released to off position without causing the stopping of the car. Coil 1-3, upon energization, also causes the separation of contacts 1-3A, breaking the circuit to the down selector.

(T. 532)

2. STOPPING THE CAR IN RESPONSE TO A CAR BUTTON

Assume that the car is moving in the up direction and that car button No. 3 is pressed. Upon being pressed,

(Testimony of George N. Crabbe)

this button effects the engagement of No. 3 car button contacts, these contacts being maintained in engagement mechanically. The engagement of these contacts prepares a stopping circuit which is completed by the selector. When the selector brush arm engages the selector stationary contact fed by the No. 3 car button contacts, a circuit is completed for up deenergizing magnet coil H as follows: from the positive wire, by wire 38 through contacts E 2, by wire 36 through up deenergizing magnet coil H and reversing switch contacts 2-4A, the selector contact member and brush arm, the selector stationary contact fed by No. 3 car button contacts, wire 35, No. 3 car button contacts, to the negative wire. The energization of up deenergizing magnet coil H effects the slowing down and stopping of the car. This coil, upon energization, causes the engagement of contacts H, completing the circuit for magnet coil E as follows: from the positive wire, by wire 100 through contacts H, by wire 101 through coil E and contacts RCA (contacts RCA being in engagement as a result of the release of the car switch handle), to the negative wire. Coil E, upon being energized, causes the engagement of contacts E to establish its own holding circuit by way of wire 102, the separation of contacts E 2 in the circuit for magnet coil H, and the separation of contacts E 1 to break the holding circuit for and thus effect the deenergization of reversing switch magnet coil 1-3. As a result of the deenergization of coil

(T. 533)

1-3, contact 1 and contact 3 open, disconnecting the motor armature from the positive and negative wires, where-

upon the motor is brought to a stop. Car button No. 3 is reset by car button reset magnet coil, this magnet coil being energized to effect the reset operation at the terminal floors.

3. STOPPING THE CAR IN RESPONSE TO AN "UP HALL BUTTON

Assume that the car is moving in the up direction and that hall button H3U is pressed. Upon being pressed, this button effects the engagement of H3U hall button contacts, completing the circuit for magnet coil HR3U as follows: from the positive wire, by wire 103 through contacts R3U and coil HR3U, H3U hall button contacts, wire 104, to the negative wire. Magnet coil HR3U, upon energization, causes the engagement of both of its contacts HR3U. The contacts HR3U are maintained in engagement, owing to the fact that one pair of these contacts establishes a self-holding circuit for coil HR3U by way of wire 105. The other contacts HR3U prepare a stopping circuit which is completed by the selector. When the selector brush arm engages the selector stationary contact corresponding to push button H3U, a circuit is completed for up deenergizing magnet coil H as follows: from the positive wire, by wire 38 through contacts E 2, by wire 36 through up deenergizing magnet coil H and reversing switch contacts 2-4A, the selector contact member and brush arm, the selector stationary contact corresponding to push button H3U, by wire 106 through magnet coil R3U and contacts HR3U, to the negative wire. The energization of up deenergizing magnet coil H effects the slowing down and stopping of the car, as explained

(Testimony of George N. Crabbe)

above for a car button stop. Contacts HR3U are reset as a result of the energization of reset magnet coil R3U, this magnet coil being energized at the same time that the circuit is completed to initiate the stopping of the car, as may be seen from the circuit traced for magnet coil H. More specifically, magnet coil R3U, upon energization, causes the separation of its contacts R3U to break the holding circuit for and thus effect the deenergization of magnet coil HR3U. The deenergization of magnet coil HR3U results in the separation of contacts HR3U.

Q Have you caused to be made under your supervision a circuit slightly more detailed straight schematic diagram showing the actual installation at the Pacific Finance Building and illustrated in Plaintiff's Exhibit 4, I to X?

A Yes, I have; and it is marked Plaintiff's Exhibit No. 9.

MR. LANE: Plaintiff now offers in evidence this diagram marked "Plaintiff's Exhibit No. 9" as Plaintiff's Exhibit under that designation.

(Marked Plaintiff's Exhibit No. 9.)

MR. LANE: This is marked "XVI" in the lower right hand corner.

Q Will you please describe this Plaintiff's Exhibit 9 and the operation of the Pacific Finance Building elevators schematically shown there?

(T. 536)

A Yes. The diagram (Plate XVI) as arranged shows the principle of operation of the Llewellyn elevator in Pacific Finance Building, Los Angeles. This control system provides means for starting the car by manual oper-

(Testimony of George N. Crabbe)

ation of the car switch and secondary control for automatically stopping the car at predetermined floors by means of push buttons in the car and on the different floors.

In the simplified diagram the elevator motor armature A is shown so that it may be connected directly to the power line by means of a reversing switch for starting in either direction, and the stopping of the motor is effected merely by interrupting the power supply. In the actual controllers, there are, of course, provided means for accelerating and retarding the motor as well as a brake for holding the load. Also, other refinements are provided which do not in any way affect the principle of operation. All such refinements have been omitted in the simplified diagram in order to make it as easy to understand as possible. For the same reason all signal lights, automatic stopping devices at terminals, safety contacts, governor, etc., have been omitted. The designation of the different parts follows as nearly as possible that used by Llewellyn Iron Works on Diagrams SK-500-239 (A, B, C, D).

Operation.

1. STARTING THE CAR IN THE UP DIRECTION.

The car switch is moved into up position, closing both the up car switch contact and the U and D car switch contact. The closing of the U and D car switch contact completes a circuit for the magnet coil RCA as follows: from the positive wire, by wire 110 through contacts DTA, contacts UTA, coil RCA and U and D car switch contact, to the negative wire. Coil RCA, upon energiza-

(Testimony of George N. Crabbe)

tion, causes the separation of contacts RCA to break the circuit for magnet coil E which was energized during the last stop. The deenergization of coil E results in the separation of contacts E, and the engagement of both of the contacts E1 and of contacts E 2. The closing of the up car switch contact completes a circuit for magnet coil UO as follows: From the positive wire, by wire 111 through coil UO and up car switch contact, to the negative wire. Coil UO, upon energization, causes the separation of contacts UOA, and the engagement of contacts UO 1 and of contacts UO 2. Contacts UOA serve as an electrical interlock for that portion of the down floor selector effective in connection with stops in response to hall buttons. Contacts UO 2, upon engagement, prepare, in conjunction with contacts E 2, a circuit for up deenergizing magnet coil H. Contacts UO 1, upon engagement, complete the circuit for magnet coil UT and magnet coil 1-3 as follows: from the positive wire, by wire 112 through contacts E1, coil UT, coil 1-3 and contacts UO1, to the negative wire. Magnet coil 1-3, upon energization, causes the engagement of contacts 1 and of contacts 3, completing the circuit for the armature A of the hoisting motor as follows: from the positive wire, by wire 113 through contacts 1, through armature A, by wire 114 through contacts 3, to the negative wire. The circuit connections for the motor being established, the motor starts and accelerates to full speed. The polarity of connections is such that the motor runs in a direction to raise the ele-

(T. 538)

vator car. Magnet coil UT, upon energization, causes the engagement of contacts UT 1 and the separation of

(Testimony of George N. Crabbe)

contacts UTA. The *sepection* of contacts UTA breaks the circuit for magnet coil RCA, resulting in the reengagement of contacts RCA. The engagement of contacts UT 1 completes a holding circuit for magnet coil UO by way of wire 115. Thus, the car switch handle may be released to off position without causing the stopping of the car.

2. STOPPING THE CAR IN RESPONSE TO A CAR BUTTON.

Assume that the car is moving in the up direction and that car button No. 3 is pressed. Upon being pressed, this button effects the engagement of No. 3 car button contacts, these contacts being maintained in engagement mechanically. The engagement of these contacts prepares a stopping circuit which is completed by the up floor selector. Upon the engagement of the up floor selector cam with the operating roller of the up floor selector switch corresponding to the No. 3 car button, the contacts of this switch are moved into engagement. One pair of these floor selector switch contacts, namely contacts 116, completes a circuit for up deenergizing magnet coil H as follows: from the positive wire, by wire 117 through contacts E 2, by wire 118 through contacts UO 2 and up deenergizing magnet coil H, contacts 116, wire 122, No. 3 car button contacts, to the negative wire. The energization of up deenergizing magnet coil H effects the slowing down and stopping of the car. This coil, upon energization, causes the engagement of contacts H, completing the circuit for magnet coil E as follows: from the

(Testimony of George N. Crabbe)

positive wire, by wire 100 through contacts H, by wire 101 through coil E and contacts RCA, to the negative wire. Coil E, upon being energized, causes the engagement of contacts E to establish its own holding circuit by way of wire 102, the separation of contacts E 2 in the circuit for magnet coil H, and the separation of contacts E1 to break the circuit for magnet coils 1-3 and UT. As a result of the deenergization of coil 1-3, contacts 1 and contacts 3 separate, disconnecting the motor armature from the positive and negative wires, whereupon the motor is brought to a stop. The deenergization of coil UT results in the separation of contacts UT 1, breaking the holding circuit for magnet coil UO. Car button No. 3 is reset by car button reset magnet coil, this magnet coil being energized to effect the reset operation at the terminal floors.

3. STOPPING THE CAR IN RESPONSE TO AN "UP" HALL BUTTON.

The hall button selector and reset strip mechanisms are provided with electrical interlocks, the contacts of these interlocks, designated as R, S, R 1 and S 1, controlling the circuits to these mechanisms. The interlocks are operated by the selector mechanism and in such manner that, when the car is moving in the up direction, interlock contacts R controlling the circuit to the up reset strip and interlock contacts S controlling the circuit to the up hall button selector are closed while interlock contacts R 1 controlling the circuit to the down reset strip and interlock contacts S1 controlling the circuit to the down hall button selector are open. When the car is moving in the down

(Testimony of George N. Crabbe)

direction, however, contacts R 1 and contacts S 1 are closed, while contacts S are open.

Assume that the car is moving in the up direction and that hall button H3U is pressed. Upon being pressed, this button effects the engagement of H3U hall button contacts, completing the circuit for operating magnet coil HR3U as follows: from the positive wire, by wire 123 through operating magnet coil HR3U, H3U hall button contacts, wire 124, wire 125, to the negative wire. Operating magnet coil HR3U, upon energization, causes the engagement of both of its contacts HR3U. The contacts HR3U are maintained in engagement, owing to the fact that one pair of these contacts establishes a circuit for holding magnet coil HR3U by way of wire 126, this holding coil, upon energization, maintaining both HR3U contacts in engagement. The other contacts HR3U prepare an auxiliary stopping circuit which is completed by the up hall button selector. When the up hall button selector brush arm engages the selector stationary contact fed by the HR3U contacts, a circuit is completed for magnet coil PS as follows: From the positive wire, by wire 127 through coil PL, through selector operated contacts S, the up hall button selector contact member and brush arm, the selector stationary contact fed by the HR3U contacts, through the HR3U contacts, wire 128, wire 125, to the negative wire. Coil PL, upon energization, causes the engagement of contacts PL 3. Shortly after the engagement of up hall button selector brush arm with the selector stationary contact fed by the HR3U contacts, the contacts of the up floor selector switch corresponding to up hall button H3U are moved into engagement by up

(Testimony of George N. Crabbe)

floor selector cam, the engagement of contacts 130 of this up floor selector switch together with the engagement of contacts PL 3 completing a circuit for up deenergizing magnet coil H as follows: from the positive wire, by wire 117 through contacts E 2, by wire 118 through contacts UO 2 and up deenergizing magnet coil H, contacts 130, by wire 131 through contacts DOA, by wire 132 through contacts PL3, to the negative wire. The energization of up deenergizing magnet coil H effects the slowing down and stopping of the car, as explained above for a car button stop. Contacts HR3U are reset as a result of the energization of reset magnet coil R3U, this magnet coil being energized by the engagement of the brush arm for the up reset strip with the selector stationary contact to which coil R3U is connected. The brush arm for the up reset strip is arranged to engage this selector stationary contact after the car is started again in the up direction. The circuit completed for coil R3U is as follows: from the positive wire, wire 133, wire 134, coil R3U, the selector stationary contact to which coil R3U is connected, through the brush arm to the up reset strip, selector operated contacts R, wire 125, to the negative wire. Magnet coil R3U, upon energization, causes the separation of its contacts R3U to break the circuit for holding magnet coil HR3U. The deenergization of holding magnet coil HR3U results in the separation of contacts HR3U.

Q Mr. Crabbe, from your knowledge of control for electric elevators shown in the Parker patent when used in connection with elevators of the types referred to therein and made and sold by the Otis Elevator Company,

(Testimony of George N. Crabbe)

and your familiarity with the defendant's elevators installed in the Pacific Finance Building, and shown schematically in Plaintiff's Exhibit 4, will you please state the advantages common to and inherent in these two elevator mechanisms in actual use?

A Controllers of this type which are ordinarily known as signal controls are especially adaptable to high speed elevators, although there is no reason why they cannot be equally well used for slow speed elevators.

High speed elevators, especially those above 600 feet per minute, are very difficult to stop, and require a skilled operator to satisfactorily handle them.

This is due to the fact that with elevators of this type it is often times difficult for the operator to see the numbers on the floors; and it is also difficult for him to judge the distance necessary for slowing down the elevator in order to stop accurately at the floors, especially under varying load conditions.

With the signal control type elevator the stopping is entirely automatic, and therefore can be adjusted to obtain accurate stopping in the minimum distance, thus relieving the operator of the responsibility of choosing the floor at which the car is to stop and judging the slow-down distance.

One of the most prevalent criticisms of elevator operation is the fact that the operator passes passengers waiting in the halls or fails to stop the car for a passenger in the car even though he has called his floor. Both of these difficulties are overcome with signal control, because the stopping of the car at the floor is automatic, and therefore the operator is not concerned with this matter.

(Testimony of George N. Crabbe)

This type of elevator increases the maximum service which can be obtained from an installation, due to the fact that the elevators can be stopped accurately with the landing and with a minimum loss of time in stopping; and for this reason passengers enter and leave the car more quickly than they would do otherwise. They relieve the operator of the responsibility of stopping the car and bringing it level with the floor, which allows him to use this time to see that the passengers enter and leave the car as quickly as possible and to answer any questions which may be asked of him.

It also improves the operation of the elevators from the tenants' viewpoint, because they realize that with this type they receive a maximum service from the elevators, in that they are not unnecessarily passed at the floor and are not carried beyond their destination when riding the car.

When elevators are equipped with automatic stopping means the wear and tear on the control apparatus and all the machinery is reduced, because the operator does not make additional starts and stops, due to the fact that he has not judged the stopping distance correctly and either stops before or travels beyond the floor.

Accidents are reduced with signal type of control because the car is brought level with the floor, and therefore

(T. 544)

the danger of people tripping over the door sill or the car floor is eliminated. This being one of the most frequent causes of accidents in the operation of elevators.

All of these various advantages which I have described above are present in the elevators which the Otis Elevator

(Testimony of George N. Crabbe)

Company builds under the Parker patent as well as the elevators which we saw installed in the Pacific Finance Building in Los Angeles.

Comparing the number of elevators required for service in a given building with a definite number of occupants between the Parker system and the entirely manually-operated system, I would say that inasmuch as elevators employing the Parker system increase the efficiency of the installation by increasing the mileage which a given car can travel it would follow that for a given building with a definite number of occupants the amount of elevator service necessary would be reduced, which might, under certain circumstances, reduce the number of elevators for this particular building.

The factor of the elevator operator forgetting to remember the floor called is eliminated in the use of the Parker system. Very frequently people getting in a car call their floors and either the operator does not hear the number, does not get the floor number correctly, or forgets to stop at the floor when he arrives there.

With elevator cabs of the type employed in the signal control elevators of the Otis Elevator Company, where the cages are entirely enclosed and where neither the operator nor the passengers can see the floors, it would be practically impossible to operate with the ordinary car switch type of elevator, whereas with the signal control system which has automatic stopping there is no difficulty at all. (T. 546)

The witness was asked how the schematic drawings of the defendants compar, so far as clarity of information is

(Testimony of George N. Crabbe)

concerned to witness as an engineer, with the drawings of the Parker patent.

Objected to as calling for weighing of evidence.

THE MASTER: It is proper subject for expert opinion.

Overruled.

Whereupon the witness answered both diagrams are schematic and require a certain amount of knowledge of this class of work in order to correctly interpret them. The Parker patent discloses as much to me as an engineer concerning the principles of operation of the device as are disclosed in the schematic drawings of the defendants' installation.

MOTION TO STRIKE. Overruled.

Exception to defendants.

(T. 547)

From my reading and understanding of the Parker patent I understand that the ordinary braking mechanism used in elevator practise is to be used here. The drawing of the patent, while it does not show specifically any braking mechanism, indicates that the same can be added to this and it is immaterial what type is used in the drawing. (T-548)

Defendants' counsel objected and the Master said: "His testimony is that it teaches him something by not showing it. So I don't see that any objection can be taken to it."

With the Parker patent drawings before me and from my long experience as an engineer in elevator work, I would employ any type of braking device that I wished to use.

(Testimony of George N. Crabbe)

Referring to the patent specification, page 5, line 23, indicates that the inventor had the same idea in mind that I have expressed from my knowledge of the patent. It states:

"Of course, it will be understood that the timing and the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alignment with the floor level." (T-550)

The construction disclosed and described in the Parker patent in my opinion as an engineer so far as construction and operation are concerned is the same as the construction of the elevators in the Pacific Finance Building and shown in the Plaintiff's exhibits to which I have referred.

(T-551)

(T. 551)

CROSS-EXAMINATION

by Mr. L. S. Lyon.

I do not have drawings or schematic drawings here showing the signal control elevator equipment installed at 26 Broadway. There are other features embodied in that installation besides those shown in the Parker patent.

As to whether any of them are of a nature that the ordinary elevator engineer could not have added to the Parker patent, I would say that an engineer designed that apparatus, therefore I would say that any engineer of equal ability could do the same thing. Any skilled engineer using ordinary engineering knowledge, together with the Parker patent, could have done it.

(Testimony of George N. Crabbe)

No. 26 Broadway is the Standard Oil Building in New York City. It has a plurality of cars and has means for stopping each car. The installation there has a button or stopping means located in the hall which will stop the first car arriving at the floor at which the button is pressed. (T. 556)

The Parker patent discloses means of operating only one elevator. It does not show means for operating a bank of elevators. (T. 561)

As to whether it is essential to the practical operation of the Otis signal control system as installed at 26 Broadway, New York, that there be means for causing the operation of a stopping means for the first car to arrive at a stopping distance from the landing, I would say that that condition is essential to signal control. Signal control is not possible without a device such as the Parker patent. It is necessary to the practical success of a bank of signal control elevators that there be some means to stop the first car that comes to a landing when a button has been pushed rather than to have a plurality of buttons, each button stopping only one car.

THE MASTER: It is not a question, Mr. Lyon, as to whether the Parker patent includes the features of the Standard Oil installation. The question is whether the Standard Oil installation includes the features of the Parker patent.

As to whether there are other inventions involved in the complete installation, MR. LANE said: I certainly concede that there is an invention beyond the Parker patent when you adapt it for use with a plurality of elevators. My point is that none of these would have been possible had it not been for the Parker invention.

(Testimony of George N. Crabbe)

It is necessary for equipment such as that installed at 26 Broadway, New York, to have means that the button shall stop only the first car. That means is not in the Parker patent. The witness was then asked whether such means could have been added to the Parker patent at the date of the Parker invention by mere engineering knowledge of elevator control. The question was objected to and the objection sustained. After further argument, plaintiff's counsel, Mr. Lane, admitted that doing so would have required invention. (T-566)

In the installation at 26 Broadway, New York, there is only one set of buttons in the hall that will stop any car and that is essential to the practical success of the signal control system. That is not disclosed in the Parker patent.

The witness was asked if he could have added the same to the disclosure of the Parker patent at the time of the date thereof, using the ordinary engineering skill as an elevator engineer.

Objection.

Objection sustained.

Exception.

(T.568)

The witness was then asked to give his answer for the purpose of the record.

The Master stated he would not compel the answer.

Mr. Lane: We admit that it would have involved invention. The same stopping means could be used for the individual car or both.

I do not know of any installation that was put in where they used a single elevator for signal control. While I

(Testimony of George N. Crabbe)

observed the single car on night duty operating in the Pacific Finance Building, the automatic stopping system was operating there, the mechanism that is common to the whole bank of cars even though only one car was in operation.

As to whether plaintiff is estopped to assert Claim 37 because of statements in depositions that plaintiff had said claim 36 instead of 37, the Master held that the plaintiff is not estopped by that statement. (T. 573)

As to what braking mechanism I could have added as an engineer to the arrangement illustrated in the diagram of the Parker patent in suit, there are several that I could have added. One is the ordinary brake magnet in existence in the art at the time of the filing of the application for the Parker patent on April 25, 1921. It would be operated simultaneously with the admission of current to the armature. One means of connecting the brake in this diagram would be to have a relay operated by the same mechanism or some starting device that enegrizes the reversing switch connecting the brake to lines 12 and 13. That braking mechanism would be connected across lines 12 and 13, across the full potential. (T-578)

In describing the circuit, a relay could be connected in series with line 15, which would operate when the contacts 10 and 11 were closed in the car switch. The function of this relay would be to close the circuit of a brake magnet which would be connected across the power lines 12 and 13. I would like to correct that statement before I finish. That relay will have to be connected in a common point where the wires 15 and 15′ connect on to number 13 wire.

(Testimony of George N. Crabbe)

The witness was then requested and drew the brake in Defendants' exhibit A.

The witness was then asked if the braking mechanism as he had drawn it in Defendants' Exhibit A had not run a lead from the point indicated on line 15′ across to 15, eliminating the lead from those two points up to the line 13, then from the point where that new lead joins with the line 15 the circuit leads to a relay, to a brake, which itself is connected with 12 and 13. The witness answered, it is correct, but you did not get your circuit just right. This circuit was completed through here and this was a separate circuit across the line. (T. 580)

The functioning of the brake in the operation of the circuits would not effect the fact that upon the solenoid 37 being de-energized the control circuit up to the pole-changing switch would be de-energized and the power to the motor shut off.

The function of the brake would not effect that fact at all. The brake which I have just indicated in Defendants' Exhibit A is applied simultaneously with the interruption of the power to the armature. This is customary on all elevator work.

That represents a mechanical brake operated by a magnet and released by springs.

It operates simultaneously with the interruption of the power to the pole-changing switch.

It does not operate simultaneously with the completion of the circuit through the selector switch.

The bridging of one of the rings and one of the contacts indicated on the diagram of the selector switch 16 sets up the circuit that neutralizes the effect of coil 32.

(T. 583)

(Testimony of George N. Crabbe)

That is practically instantly; that is, a very short interval of time, and that practically instantly interrupts the control circuit up to the pole-changing switch.

And that practically instantly cuts off the power to the motor, brakes the power circuit to the motor and practically instantly applies the mechanical brake that I have indicated.

I think that I could show you a printed publication or prior use on or before April 25, 1921 showing a brake structure which I could add as an engineer to the showing of the Parker patent. (T. 585)

The Otis Elevator Company used it at the Windemere Hotel at Dallas, Texas, I think.

I took an old installation which I think was previous to the date you have stated.

I could show you a braking mechanism that I am sure was either in a printed publication or in public use prior to that date which I could add to the Parker diagram. It was in public use on practically all standard Otis elevators.

One instance is the Woolworth Building. That was the type of braking apparatus that I have shown diagrammatically in Exhibit A.

(T. 586)

I would indicate how one would connect that into the schematic diagram by merely adding insulated auxiliary contacts to the reversing switch in such a manner that when this switch operated in either the up or down direction a brake magnet coil would be connected across the power supply lines 12 and 13 and controlled by the operation of these auxiliary contacts.

(Testimony of George N. Crabbe)

The brake magnet would set the mechanical brake on the revolving drum.

This brake will operate in all respects in the same manner as the brake shown diagrammatically on Defendants' Exhibit A. (T. 587)

Referring to the Standard Oil installation at 26 Broadway, there is a contact on the selector switch which if the circuit conditions are correct will cause a particular car to stop, will initiate the stopping of that car and interrupt the power to the motor armature and apply the brake.

It would be a very short time in the operation of the Parker system to de-energize the coil 32 upon the completion of the circuit through the de-energizing coil 37, through the contacts registering in the floor selector switch.

As to how long, that depends upon the condition of the circuit. The time it takes to kill a magnetic circuit depends upon the construction. (T. 589)

(T. 589)

It is not a matter of minutes. It is seconds. It may or may not be a fraction of a second. Under certain conditions of construction you could assume half a second.

As to how long following the de-energizing of the coil 32 would required to open the pole-changing switch to interrupt the power current to the motor, that all depends upon the construction of the pole-changing switch, how much inertia there was. Assuming a typical pole-changing switch, you could assume a quarter of a second.

Answering the question whether within less than a second after the contacts are completed in the floor selector switch the power to the motor would be interrupted in

(Testimony of George N. Crabbe)

accordance with the Parker diagram, I would say that the Parker diagram does not indicate that in any way about time, nor does the pole-changing switch indicate anything more than a means for connecting the Parker diagram to other already established means of control of the motor.

It does show that the pole-changing switch makes in reversing relation the circuits to the motor armature, and it implies more.

On page 1, line 49, of the Reissue patent, it says:

"No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself. It is (T. 592)

intended to retain the positive features of manual control, but to add to such an electrical mechanism, which upon being previously set will interrupt the main driving of power circuit at pre-determined points in the line of travel of the car." (T. 594)

As to whether upon the floor selector completing the circuit to the de-energizing coil on the car switch, the power circuit to the motor is interrupted within the time that the circuits that I have heretofore described can function, I would say that the Parker patent as I understand it is not concerned with the stopping means used for controlling the operation of the motor, but merely with the means to initiate the stopping and the starting of the car. (T. 595)

The Parker patent is something that is to be added to controls which already exist and those controls contain the means for stopping a car.

It indicates the connection between the Parker patent and well-known control means for elevator cars.

The Parker patent diagram or the specification actually disclose means that will stop an elevator car. Those means

(Testimony of George N. Crabbe)

are any accepted means. Not all of the accepted means are shown in the Parker patent. It is merely shown schematically that there is some means for interrupting the power to the circuit. (T. 596)

(T. 596)

The pole-changing switch and all contacts and wires on the switch which show the connections to the motor apply to the stopping means in the diagram of the Parker patent. The stopping mechanism is the pole-changing switch.

As to how it stops a car, it merely shows that power is applied to the motor in starting and the power is cut off from the motor in stopping.

It is not correct to say that the only operation that is illustrated and described in the Parker patent that is actuated by the push-buttons in the car or on the landing is the cutting off of the power to the motor. The push-buttons are used to initiate the stopping of the motor.

(T. 597)

The Parker patent describes that the car is to be stopped by the opening up or rather by the de-energizing of the pole-changing switch solenoid.

That is not the only thing that the Parker patent describes as being described by opening the pole-changing switch is braking the power circuit to the motor. It describes any accepted control which existed up to that time.

The push-buttons in the Parker patent open the pole-changing switch under certain specified conditions. All that the diagram shows is that the push-buttons open the pole-changing switch and that indicates whatever is neces-

(T. 598)

sary to stop the elevator motor.

(Testimony of George N. Crabbe)

It is not correct to say that the only thing that is actually described and shown in this diagram that is accomplished upon the opening of the pole-changing switch is the interruption of the power circuit to the motor.

The patent describes any known means for starting the motor. It was old in elevators or in printed descriptions of elevators at the time of the Parker patent, say as early as prior to the Summer of 1920 to have a car switch in a car which controlled the circuit to the pole-changing switch which pole-changing switch controlled the drive to the car.

It was not new to show that schematic arrangement for the operation of the pole-changing switch from a contact in the car switch.

In that old mechanism the car switch could be passed in one direction to open the pole-changing switch to start the motor in one direction and the switch could be reversed to start the motor in the other direction through the pole-changing switch. (T. 600)

It was not new in the industry to have a push-button which would close and open the pole-changing switch through an automatic floor selector.

(T. 600)

I see no reason why the mere addition of a braking mechanism such as I indicated on Defendant's Exhibit A to the arrangement shown in the Parker drawing would not cause the car to stop accurately at a landing.

I know that elevator cars move at different speeds depending upon the distance they travel which is regulated by the number of floors they happen to stop at in making a trip; and that the same braking taking effect at the same time in the travel of a car would bring the car to a stop

(Testimony of George N. Crabbe)

at a different level if the car was traveling at a different speed, if you refer to having only a mechanical brake on to stop the car.

If the weight of the car varied the car would not stop at an accurate level due merely to a mechanical brake.

(T. 601)

In the Standard Oil Building a magnet brake is used to stop the car after the same has been slowed down. It is slowed down by reducing the voltage on the armature.

That is done by the Ward-Leonard control and is done by varying the voltage from the generator. The Ward-Leonard system of control has been in existence for over twenty-five or thirty years, substantially as we use it in the Standard Oil Building in New York.

The Ward-Leonard patent system is a motor generator system driven at constant speed. We have a multi-voltage system in the Standard Oil Building not a Ward-Leonard system of control. (T. 602)

(T. 603)

It is not as old as the Ward-Leonard, but it goes back beyond 1921.

The system that we have installed in the Standard Oil Building or the Pacific Telephone Building would be practicable without the self-leveling mechanism.

I did not mean that it would be satisfactory running at the speeds that the Standard Oil Building runs without the self-leveling mechanism.

I mean that the system of control there used is practicable for elevators without self-leveling. I do not think that it would be practicable in the Standard Oil installa-

(Testimony of George N. Crabbe)

tion with the conditions under which it is operated there because the speed is too high.

If self-leveling were unknown, it is possible that elevators similar to those put in the Standard Oil Building may have been operated without self-leveling at that speed. The cars would not stop as accurately at the floors as they do with self-leveling.

It is a combination of the signal control and the self-leveling mechanism that brings the car to an accurate landing. Without the self-leveling the signal control would not bring the car to an accurate landing. It would bring it to a more accurate landing than the ordinary car switch control due to the fact that the stopping is auto-

(T. 605)

matic, but when the car speeds exceed certain amounts the best known means at present is to use the self-leveling.

A manual control could bring the car to an accurate landing if the operator went through the necessary manipulations of the control carefully.

If the signal control and the self-leveling were both off these elevators, the operator by the careful manipulation of the car switch could bring the car to an accurate landing.

The car would not make as accurate a landing with signal control as it does with the self-leveling, and it would not make as accurate a landing as an operator could make by proper and careful manipulation of the car switch manual.

The witness was shown some drawings and asked whether they illustrated the signal control installation in the Standard Oil Building at 26 Broadway.

(Testimony of George N. Crabbe)

Witness stated that he did not know. By looking at them I cannot tell whether they are accurate in all details or not. I understand the drawings and I understand the Standard Oil installation, but I do not know whether those drawings are descriptive of the Standard Oil installation because there is too much detail work there. I would have to read all of them and look it all through carefully before I would know whether it was exactly like the Standard Oil or not.

(T. 609)

I cannot produce any drawings or diagrams of the Standard Oil installation at this time.

As I look at these drawings they look like parts that are used in the Standard Oil installations but that was the first installation that we put in and parts have been changed since that time and therefore I do not know whether these represent the actual parts that were used there or not. I cannot even be positive that this apparently represents the installation as it was put in in 1924.

In the Standard Oil Building at 26 Broadway as installed in 1924 we employed auxiliary motor micros.

(T. 615)

The auxiliary motor micro is a device which is added to the main machine, although not structurally added. It is incorporated as part of the construction. It is a separate machine which drives the elevator at a slow speed. It is automatically controlled when the car is within a certain distance above and below the floor, and comes into operation after the speed of the main elevator hoisting machine has been reduced.

The push-buttons set up in connection with the floor selector the stopping circuit.

(Testimony of George N. Crabbe)

The stopping circuit initiates the stopping of the car by slowing the car down and interrupting the power to the main motor and applying the brake. They do that by magnetic switches. (T. 616)

(T. 617)

The circuit for stopping the elevator in the Standard Oil Building is set up while the elevator is traveling at full speed. The pole-changing switch is not opened while the car is traveling at this speed.

The pole-changing switch is opened relative to the stopping of a car when the car approaches the floor level. The pole-changing switch disconnects the power from the motor armature and applies the brake just before the car reaches the point at which it is to stop.

The car has not stopped when the pole-changing so acts. The brake is set when the car is in motion, when it is moving at slow speed, I would say about fifty or sixty feet a minute, probably. (T. 618)

That action is accomplished by a coil to interrupt a circuit which was established by a contact in the car switch.

In the Standard Oil installation the car switch is not moved in one direction to start the car upward and in the opposite direction to start the car downward.

The car switch is operated in one direction to cause the car to go either up or down. (T. 619)

There is a primary and secondary circuit in the Standard Oil installation.

(T-620)

The car switch closes the relay which opens the pole-changing switch in the Standard Oil equipment in New York.

(Testimony of George N. Crabbe)

We have a primary control circuit in the Standard Oil Building. It does not include the contacts on the pole-changing switch, but the coil on the pole-changing switch operates the pole-changing switch contacts.

We call the switch in the Standard Oil installation the reversing switch. It performs the same function as the pole-changing switch shown in the diagram of the Parker patent, but the construction is entirely different.

It opens and closes the armature circuit at the opening and closing of the switch.

The switch is made up of two double pole switches. They are separate switches with a walking beam between them to prevent one closing in case the other is already closed.

We have two switches, one for up and one for down, just as shown in the Parker patent.

Q What do you mean when you say a thing is just the same? A I mean it performs the same function. Q You don't mean it does it in the same way or that it is constructed the same? A No. (T-622)

In the Standard Oil equipment we also have a secondary control circuit which is energized from the floor selector in conjunction with the push buttons and that leads back to the car switch in the car.

(T. 622)

The contacts in the car switch are not included in the stopping equipment.

The stopping circuit does not lead back through the car.

(T. 623)

The arrangement shown in the Parker patent and the drawing include a car switch that is moved by the oper-

(Testimony of George N. Crabbe)

ator to the right when the car is to start up and moved to the left when the car is to start down.

The switch used in the Otis signal control system is always moved in the same direction to start the car either up or down.

In the Parker system, as shown in the patent in suit, the operator can select the direction in which the car is to travel by his starting switch and that is also so in the Otis device.

The lever which the operator moves does not control the direction in which the car is to travel. Whether the car moves up or down is determined by another switch, the direction switch controlled automatically by the car reaching the top and bottom floors. We have that in the Otis signal control. (T. 624)

In the Parker system described and shown in the patent in suit, part of this car switch is held in starting position until released by the stopping circuits set up by the push buttons in conjunction with the car arriving at the floor corresponding to the button. (T. 624)

Unless the bridging of the contacts 10 and 11 is removed there is no interruption of the power circuit to the motor. The interruption of the circuits at contacts 10 and 11 is necessary.

In the Otis system the contacts are not in the car switch but the contacts and solenoid are transferred to the controller board. (T. 625)

In the Standard Oil Building the floor selector used is a screw driven from the car on which there is a crosshead traveling up and down containing brushes which engage with stationary contacts.

(Testimony of George N. Crabbe)

Our selector does not look like the rotating member indicated in the Parker diagram.

I cannot say whether there was any other type of floor selector that looked like the Parker or not, but it is merely a diagrammatic way of representing the floor selector.

To my mind the Parker drawing does not represent a particular type of floor selector, that is, where the contacts are on a rotating member. I have seen a floor selector indicated in that manner in an elevator diagram prior to the date that the patent was applied for, April 25, 1921. I cannot tell where.

I have seen them on patent drawings, but I cannot refer to the particular patent or the name of the inventor. I just remember seeing such a representation of a selector.

(T. 627)

(T. 627)

Prior to April 25, 1921, the Otis Company had drawings that represented a selector very much the way we did by a rotating member with contacts on the rotating member. I cannot tell you the number of the drawings. They were used on any number of installations. It is the old method of showing a floor selector.

This is the type of floor selector that was used in the automatic push button control elevators prior to this Parker invention.

It was a rotating type as the general construction shown there in the Parker patent. The contacts are stationary I believe on this one as I believe they are on ours. (T. 629)

On the floor selector there were contacts which connected respectively with the different push buttons and

(Testimony of George N. Crabbe)

by rotating they set up both the stopping and the starting circuit.

They were the same circuit in all cases, both the stopping and starting circuit. Those were what the Otis Company knows as the single push button automatic elevators. (T. 633)

In the Otis single automatic push button elevator which I knew prior to the Parker invention the push buttons did not stop the car at the floor. They merely initiated the circuit.

The floor selector stopped the car not in conjunction with the push buttons.

The car is both stopped and started by the pressure of a push button, and it would be started from within the car by the operator or passenger. (T. 634)

As to whether I knew prior to the Parker patent of a car to be started by a person within the car and which could be stopped at a floor by or through pressing buttons in the car or pressing buttons on the floor, that is an entirely different operation from the Parker patent. (T. 635)

It is not correct to say that elevators were in common use prior to the Parker invention to my knowledge, which could be started by a person in the car and which could be stopped through means of pushing a push button in the car or through pushing a push button at a floor at the particular floor corresponding to the button pushed. (T. 637)

Assuming that but one button was pressed, either in the car or on the landing, under those circumstances the

(Testimony of George N. Crabbe)

car could not be stopped by pressing any other button in the car or by pressing any button at the landing.

(T. 638)

In connection with the single automatic push button elevator, after one button is pressed it does no good to press the other buttons. If you pushed the No. 2 button in the first place, it would stop at No. 2. If you pushed No. 5, it would stop there. The car could be started by the person in the car. The car could not be stopped by a person outside on the floor. It can be brought to a floor but it cannot be stopped at that floor. (T. 639)

(T. 639)

If the car is at rest when the button is pushed the car will go to that floor and stop there. That was through a floor selector that the stopping mechanism operated. It was not a floor selector corresponding to S in the Parker diagram.

It was a breaking contact and not a making contact that stopped the car.

You are not employing the Parker system as I understand it if you use a making contact instead of a breaking contact in the floor selector. (T. 640)

The arrangement as shown in the drawings would not work with a breaking contact instead of a making contact.

When a person is using a breaking contact instead of a making contact for initiating the stopping of a car, I would not say whether they are using any of the teachings of the Parker patent or not. I am afraid it would require a complete reconstruction of the system so that it would have to operate in a substantially different way.

(T. 641)

(Testimony of George N. Crabbe)

I do not think the circuits through the contact initiated by the hall buttons are in series with the circuit through the contacts initiated by the car buttons. The circuit from the hall button contact passes through the contacts of the car buttons to the floor selector.

I cannot answer off-hand whether if so arranged it is necessary to have separate down car buttons and separate up car buttons. (T. 642)

(T. 643)

The circuits from the contacts of the hall buttons in the Otis signal control system do not pass through the contacts of the car buttons. I do not think it would be absolutely necessary to have up and down buttons in the car to do that if it was essential.

I cannot answer off-hand whether it would be necessary to have both up and down car buttons in order to have the circuits from the up and down floor buttons passing through the car switch. (T. 644)

The Master asked whether a bank of elevators with more than one elevator, whether the first car approaching the floor could be stopped by pushing a button that closes the circuit that runs through the contact in the car buttons. (T. 646)

The witness answered, No, I do not think it could.

(T. 647)

The Otis signal control system does not have separate buttons and separate down buttons in the car. They only have one set of buttons in the car.

One button operates one switch.

In the Pacific Finance installation there is one set of buttons in the car and one set of switches for the buttons.

(Testimony of George N. Crabbe)

VOLUME 5.

MONDAY, APRIL 8, 1929. (T. 650)

Mr. L. S. Lyon stated that subject to defendants' exception that the San Diego Trust installation is not within the issues raised by the pleadings, and therefore is incompetent, irrelevant and immaterial, and pursuant to the Master's order defendant produce the drawings of that installation.

Said drawings were numbered 400465-A, 400465-B, 400465-C, 400465-D, 400465-E, 400465-F, 400465-G, 400465-H, 400465-I. These are the drawings that were actually used in the installation. (T. 651)

Mr. Lane requested permission to see the drawings. Counsel for defendant objected.

THE MASTER: There has been a sufficient showing made by the plaintiff to entitle the plaintiff to have the drawings of the San Diego installation produced and to establish his right to inspect them. As to whether this particular thing is an infringing structure or not depends further upon the plaintiff, and the determination of whether they constitute infringing structures and whether there was an infringement prior to the filing of the bill or whether there was a threat of infringement is a fact yet to be found. Your objections stated as to the right of the plaintiff to inspect the drawings which you have produced are overruled.

Exception to defendant.

THE MASTER: I will permit, under proper circumstances, an inspection of these drawings by the plaintiff. (T. 658)

(Testimony of George N. Crabbe)

THE MASTER: If you have any objection to the plaintiff taking these drawings away from this room to be studied, we will only permit the inspection here.

(T. 659)

Inasmuch as the defendant has other prints of these drawings, I would suggest that they be marked and turned over to the plaintiff. I think it perfectly proper that plaintiff should be cautioned not to make any copies of the drawings.

MR. LANE: There will be no copies made. The only purpose we desire them for is for the purpose of this case, and unless we get to a point where we are suiting the Court's requirement by having copies for its convenience and use—only after the order of the Court will we make any drawings.

MR. LANE: We will just leave them in the Master's possession until we get far enough along so that we want to look at them.

CROSS-EXAMINATION OF GEORGE N. CRABBE

Resumed by Mr. L. S. Lyon . . . (T. 661)

When we speak of a schematic diagram, it means that the parts are shown in schematic form only and only such parts are shown as is necessary to make clear the diagram. The location of the parts relative to each other is not indicated on the diagram.

The schematic diagram shows the circuits, so that they are clear to one in reading as to what they are. In so far as there are circuits shown on this schematic diagram, they should be correct. A schematic diagram is made to show the circuits slightly different than they are in the apparatus and still it would be schematic. It depends

(Testimony of George N. Crabbe)

on the use the schematic diagram is made for. If it is made to show certain operations and those operations on a regular construction diagram become complicated, they may be shown in another form to make it clear what the schematic diagram is intended to show.

As to whether there should be a car switch or master switch in the structure that operates in the manner shown in this diagram, I would say only to the extent that that particular mechanical construction shows. It means that it has a means for accomplishing a certain thing. This is not a mechanical drawing but a schematic drawing of a particular means. It indicates that the switch is operated manually and that when once operated, the circuits which it establishes are maintained.

This drawing shows one way that the car switch may be made. There may be other ways. If this is a schematic drawing, I do not think that is the way it is to be made if it is to be made in accordance with the drawing. (T. 664)

This schematic drawing illustrates the means but it does not show the mechanical construction as to exactly how—it does show a mechanical construction, but it doesn't show all of the mechanical constructions that may be used to accomplish that purpose.

In so far as it does show mechanical constructions, it shows a mechanical construction which can be used. My understanding is that it is merely illustrative of the means which patentee had in mind. I got that understanding from the way it operated. (T. 665)

The mechanical construction of the car switch differs from the ordinary car switch shown in elevators prior

(Testimony of George N. Crabbe)

to the Parker invention. I think that would cover all the differences. I understand the sentence in the specification, page 1, beginning line 49: "No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself." (T. 665)

It meant that the master control switch does not perform the same operation as it does in an ordinary car switch elevator. That is all I understand about fundamental change. In the ordinary car switch elevator, the circuit is made by the operation of the car switch, and when the car switch is returned to the off position that same circuit is broken again.

Answering the question what structure in this master switch that is shown in the patent drawings brings about that difference, I would say that the fact that the arm 4 or 4′, depending upon which way the lever 3 is operated, is held in the position to bridge the contacts 10 and 11 or 10′ and 11′ after the lever 3 has been returned to center. If the arm is passed beyond center until the tail-piece bridges the contacts 39′ and 40′ with the car passing in the up direction, the member 4 is brought back to center again and that stops the car, but not in the same manner as the old car switch did, where you brought the lever by the center. (T. 667)

The witness was asked: Then the fundamental difference between this master switch in the Parker patent and the switch that was ordinarily used in manual control elevators prior to the Parker invention was that in Parker you bring the master switch slightly beyond center to stop the car, whereas in the prior devices you just

(Testimony of George N. Crabbe)

brought the master switch to center to stop it, did you not; is that correct? Objected to as going into defensive matter. Objection overruled.

The witness answered: That is not the fundamental idea. That is a difference. The difference is the fact that under normal operation the part 4 is held in contact with the contacts 10 and 11. (T. 667)

During the time the car is in movement, as long as the operator holds the switch in the operating position, those contacts are held closed. If the operator holds down the handle 3 in the Parker device, he will maintain the contacts 10 and 11, bridged or closed. The contacts are bridged by the part 9 but as long as he holds that down they will be so bridged but that is not the normal operation of a car switch. Both with the Parker and the prior manual switch you can maintain the handle 3 down in position to bridge the contacts 10 and 11 and keep the car traveling. (T. 669)

You can release the handle and pass it back to a point where it will stop the car but that is not the way it is supposed to be operated.

The fundamental difference is both what you can do and what the switch does. As to whether there is any fundamental difference in the structure of the Parker switch from the prior switches except that the handle does not have to be pushed back as far to stop the car, if a car can be started by means of the car switch and mechanically stopped by means of the car switch, the same as all manually controlled elevators, the answer is yes.

(Testimony of George N. Crabbe)

On the manually controlled elevators that existed prior to the Parker patent, you can maintain the car in motion if you didn't return the switch to center. (T. 671)

The fundamental change in the Parker switch is that it permits the operator to establish the primary starting circuit, and after that circuit has been established and his switch returned to the neutral position, the interrupting of that circuit is not under the control of the operator. That is the fundamental change in the starting switch. You could keep the car running by the prior master switch.

As to the difference in structure in this switch, there doesn't necessarily have to be any change in the switch itself if the parts that accomplish the feature which I mentioned in the previous answer are placed somewhere else.

As to what change in this particular structure that is shown here in the Parker diagram that makes the fundamental differences possible, I would say the means that are shown there for holding those contacts 10 and 11 bridged when the lever is brought to center. Those means are the solenoid 32 for the up direction and is one that holds it in position.

I do not recall seeing any other master car switch that had a solenoid for holding the contacts corresponding to 10 and 11 bridged.

I do not necessarily understand from the teachings of the Parker patent that the solenoid 37 must be within the car itself. The solenoid 37 is the one that drops that and not holds it. 32 is not necessarily supposed to be in the car. 32 merely indicates that some means must

(Testimony of George N. Crabbe)

be provided to hold those circuits through those contacts 10 and 11 closed. (T. 674)

The witness was asked, is the presence of a coil or solenoid, such as 32, or magnet 31, as it is employed there to maintain the contacts 10 and 11 bridged, the fundamental change in the car switch shown in the Parker patent.

The witness answered—if you used a car switch constructed mechanically like the one shown in the Parker patent, the magnet 31 would be necessary to accomplish the purpose sought.

As to whether the fundamental change must be in the car or not, I would say no. You can take that magnet out of there and transfer it to any place you wish.

The function that the master switch performs is different in the Parker than it is in the manually controlled elevator.

Referring to the language, page 1, line 52—"no fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself," as I understand Mr. Parker's idea, the fundamental change that is necessary in the master switch is the fact that the operator starts the car by means of the lever, and the closing of the circuits through contacts 10 and 11, and then after the car has been started the control of the car is to be taken from the operator, and his idea of a way to do that was to hold the same bridging contact which initiated the operation closed or in place until he is ready to drop it. (T. 681-682)

(Testimony of George N. Crabbe)

Referring to the part quoted and the drawings that are attached to the patent, it is indicated that Parker has in mind to place solenoids 32 and 32′ within the car switch itself.

As to what this disclosure means to me as an engineer, an engineer would not—at least I think he would not—use that construction, because in all car switch designs it is always the same, to keep the car switch as small as possible, to keep all complications out of the car switch, and it is so easy to transfer that complication, if it may be called such, to the control board and not make any physical change in the car switch itself.

If I were given the patent and told to work out a structure that would operate, I don't think any engineer would put the solenoid in the car switch. (T. 683)

I find in the Parker drawing that the reset coils of the hall buttons are in series with the de-energizing coils on the car switch, that is, they are in series when the selector contacts make for a given floor. There might possibly be some time relation necessary under these circumstances for them to operate.

If the de-energizing coil 37 functioned to neutralize the coil 32 so that the arm 9 passed off the contacts 10 and 11 before the reset coil of the hall button functioned, it may not reset the button.

If the reset coil functioned before the arm 9 disconnected, the contacts 10 and 11, it is hard to say what would happen. (T. 686)

Referring to the coil arrangement such as the Parker diagram shows, where the coil 37 is in series with the reset coil on the hall push-button, M-2, 3 or 4, I believe

(Testimony of George N. Crabbe)

that a practical engineer would use a different circuit for accomplishing the same thing that Mr. Parker does here. However, I have no doubt that this construction could be used and the parts made to function properly.

The witness was then asked— But in so far as the Parker diagram shows, there would be a race of circuits between here which no practical elevator engineer would countenance, I wouldn't say that the Parker diagram indicates that at all.

The Parker diagram indicates that the de-energizing coil 37 is in series with the coil m-2, and if this is a correct schematic diagram, those two coils would be in series in that structure. I would certainly approve of that to show an idea. I would not have laid it out in that way because from my knowledge I know better, and the man making the patent may not have known better.

(T. 689)

This way is perfectly all right to represent the idea but when it comes to a mechanical construction it is more difficult to make a construction like this than it would be to use some other construction, because it brings in the time element, which needs to be taken care of. It would be considered good engineering practice to check over elevator designs and control circuits to eliminate any time element. You can oftentimes do something if a condition arises similar to a race of circuits to delay one or the other so as to accomplish what you wish. I do not believe that an engineer would put these two coils in series, and the same thing is true about the reset coils on the car buttons being in series with the de-energizing coils.

(Testimony of George N. Crabbe)

The diagram shown in the patent indicates wires leading from the floor selector to the car buttons. (T. 690)

In this particular diagram those are the circuits from the car buttons to the floor selector and the stopping circuits and is from the floor selector to the car, referring to 36 and 36'. To my mind this circuit does not indicate that it is to be connected in that way.

The only statement that I find in the patent disclosing that it can be run any other way or any different place is that the patentee explains what he wishes to accomplish and shows one means for accomplishing that purpose.

As I understand this, Parker had certain operations in mind, which he describes very clearly in the patent, and in making up this schematic diagram he showed one way of performing the functions that he desired; and I, as an engineer, can take this diagram and perform those same functions by making connections and transferring certain operations from one place to another. (T. 692)

The witness was then asked if he could have worked out a system or an arrangement from his engineering skill capable of performing those functions if the functions had been stated to you and you had not seen the Parker diagram or the description of the Parker patent. I am referring now to a time prior to the Parker invention or your knowledge of the signal control. (T. 692)

The witness answered—that is a very hard question to answer, to try to take out of my mind what is now there and place myself back to a time previous. But it seems to me that, if I would have been able to do so, knowing, as I do, that the demand for some such operation existed, that is, where the car could be started and taken away

(Testimony of George N. Crabbe)

from the operator and then stopped by pressing buttons in the hall, I would have made an effort to do so.

I made efforts to try to do that before I learned of the Parker system, but it never came to a head. The work was done at different times. The idea was to stop an elevator by the passengers rather than the operator. That was prior to 1920. My idea was to stop it from buttons on the landings. I couldn't recall whether I used a car switch for the operator to start the car or not. In fact, I don't think we got far enough along to decide how the car was to be started. I am not sure of that because this was more or less very preliminary work and discussion only. I cannot fix the date because the whole thing is hazy in my mind now.

I first learned of the Parker patent or reissue about two years previous to the installation in the Standard Oil Building. I knew of it; I knew what it was about. Whether I saw it at that time I can't remember.

I think Mr. Lindquist, the chief engineer, told me about it first.

A number of people worked on the preliminary work on the Standard Oil Building installation. D. C. Larsen, E. L. Dunn and I were on several of these conferences.

(T. 695)

I do not think that I could have worked out a system to stop the car from the push buttons and start it from the manual switch if these conditions had been described to me before I knew of the signal control system of the Parker patent system. I am not sure that I couldn't.

The witness was then asked what he thinks he might not have been able to have added to the elevator system

(Testimony of George N. Crabbe)

without knowing about the Parker and Otis elevator control system. Objection. Sustained. (T. 697)

The circuits from the floor buttons in this Parker drawing pass through the car buttons as shown in the diagram. They would do so in an installation built in accordance with this drawing. I never saw an elevator erected in accordance with the schematic drawing of Parker. I have seen an elevator that this Parker diagram would be a correct schematic diagram of. This Parker diagram would be a correct schematic diagram of any Otis signal control elevator installed.

The Otis company has not built an elevator where the circuits from the floor buttons run through the buttons in the car. I do not know of any elevator that has ever been constructed which used the same circuits that are schematically set forth in the Parker drawing. (T. 701)

The witness was asked: Is this illustration of the construction and wiring of a floor selector in the Parker patent drawing a correct schematic drawing of the floor selector and wiring of the floor selector employed in the Standard Oil Building at 26 Broadway, New York.

The witness answered: It is a schematic representation of that part of the floor selector used there which pertains to the Parke*t* patent.

In this illustration in the Parker patent the hall buttons and the car buttons are both connected to the same contacts on the floor selector. In the Standard Oil installation. they are not on the same contacts but the contacts function at the same time.

The witness was asked whether in the installation as shown in the Parker patent drawing the registering of

(Testimony of George N. Crabbe)

the floor selector with the floor contact that has been energized by a button sets up the circuit that disconnects the contacts 10 and 11, and thereby interrupts the power circuit to the motor without any further movement of the car.

The witness answered: If you are looking at that physically from the time you make that contact until the time the car comes to rest, there is motion. In this arrangement shown in the patent drawing, the car reaches a point where the selector has arrived to register with one of those contacts, and that is sufficient to set up the circuits and interrupt the hoisting motor without any further movement of the car. This is true in the Standard Oil Building in New York, and is also true in the Pacific Finance Building here.

Mr. Lane asked for the set of blue prints of the San Diego Building, to which counsel for defendants agreed. (T. 707)

As to whether the illustration of the floor selector in the Parker patent drawing illustrates the up and down contacts on the same level on the selector plate, I would say that it was correct in the schematic drawing and it may be correct even in an erection drawing. As shown in this drawing the up and down buttons are on the same radial line.

The Standard Oil Building installation does not have a selector of that type. In principle it is a correct schematic drawing of the selector in the Standard Oil Building, but the mechanical construction is different. I do not think you would call the wiring different. The

(Testimony of George N. Crabbe)

spacing of the contacts gets into the mechanical construction.

On the one in the Standard Oil Building they have to be placed in a certain position for the floors. Here there is no definite location. They are just relative locations.

I do not know the exact speed of the Standard Oil elevators at 26 Broadway. It is between 600 and 700 feet. At those speeds you have to initiate the impulse to cause the car to change its speed or stop about a floor ahead; several feet ahead. (T. 709)

I haven't the least idea how they are set in the Pacific Finance Building. They would be several feet. It may be more than a floor. If it was more than a floor ahead that might change the circuits that are shown on plaintiff's Exhibit 16 in an actual diagram, but in a schematic diagram I wouldn't say that it would.

In the Pacific Finance Building it is over a half a floor, but I would not say for sure whether it is over a floor or not. I presume that the odd and even arrangement incorporated in the Pacific Finance is probably to have more than a floor's stopping distance, or slow-down distance. I do not know what an arrangement of contacts on the floor selector that requires. I can tell you what you have in the Pacific Finance Building.

The circuits in the Pacific Finance Building have nothing to do with the schematic diagram in my estimation. The odd and even floors are not distinguished between on this diagram, Plaintiff's Exhibit 16. I was told to make up a schematic diagram and I did. I don't think I was told to make it look just as much like the Pacific

(Testimony of George N. Crabbe)

drawing as I could. I think that was my own idea. It was to use the same way of representing apparatus to perform certain functions. That was made up by using the parts shown in the Parker patent and placing them in approximately the same locations. This is a correct schematic diagram of the Pacific Finance Building installation to the best of my knowledge. I have checked it carefully with the Pacific Finance installation and I would say it was correct. The principle of operation shown here is the same as the operation obtained in the Pacific Finance Building. (T. 714)

If the patent drawing is considered as a schematic diagram and from that a regular elevator diagram can be made, then there is no reason why you shouldn't take a standard elevator diagram and work it back into a schematic diagram.

Plaintiff's Exhibit 16 does not show the wiring as it actually exists. It only shows that part of the installation which pertains to the Parker patent. (T. 715)

With the floor selector as shown in the Parker patent for a high speed elevator you would have to set the contacts f more than one floor from the floor corresponding to the button that had been pushed. I don't recall that the Parker patent said where the adjustable feature was, whether it was in the bridging piece 34 or the contacts. (T. 716)

The drawings 8 and 9, numbered 15 and 16, are different from the diagram on Exhibit 16, so far as the wiring is concerned. Both 8 and 9 represent the Pacific installation and 16 correctly illustrates the Pacific Finance installation. The wiring on plaintiff's Exhibit

(Testimony of George N. Crabbe)

16 is not the same as it is in the Pacific Finance Building, but the operation shown schematically is the same. (T. 722)

The principle of operation is correctly shown in Plaintiff's Exhibit 16. There is a similar circuit in the Pacific Finance Building which performs the same function as the circuit shown in the Plaintiff's Exhibit 16.

Exhibit 9 shows the operation in the same way that 16 shows it, that is *diagramattically* and it is correct. I made Exhibit 16 and I do not find anything in Exhibit 16 that is at variance with the Pacific Finance installation as a schematic diagram. I would say that Exhibit 9 is schematic too. The principle of operation is correct in accordance with the circuits in the Pacific Finance Building, but certain wiring is different. The circuits may not be exactly, that is the connections may not be exactly the same, as they are shown here. There is no difference in the operation as indicated in Exhibit 9 from the Pacific Finance Building that pertain to the functions as outlined by the Parker patent.

You cannot compare exhibit 9 circuit by circuit with the Pacific Finance diagrams. You must take the whole schematic diagram and that represents the same principle of operation as the Pacific diagrams represent. The circuits may be different but the functions which they perform are the same, in Plaintiff's Exhibit 9 and in the Pacific Finance Building.

You cannot compare them circuit by circuit—you have to take the operation of the whole controller and compare it with this whole controller. (T. 724)

(Testimony of George N. Crabbe)

There is no circuit operating in the Pacific Finance Building where the armature of an elevator motor, the switches 1, 2, 3 and 4, are arranged to reverse the connections between the motor armature A and the source of power indicated by the conductors at the left and right-hand sides of the diagram, respectively marked minus and plus.

In the Pacific Finance installation there is no connection permitting the conductors connected with the elevator motor armature to be reversed.

In the Pacific Finance Building the direction of the car is reversed by reversing the flow of current to the main field winding of a Ward-Leonard variable voltage generator. That is not shown on Exhibit 9. There is no control for any car or hoistway doors shown in Exhibit 9. (T. 226)

There are no hoistway doors shown on Exhibit 9. You cannot compare the diagram, circuit by circuit, because the diagram shows only a portion of the installation, which is affected by the Parker patent. The buttons would be reset in accordance with Exhibit 9 when the contact on the up reset strip contacts with the contact to which the proper reset relay is connected.

I believe that is in accordance with the diagram of the Parker patent in suit, and I think it is also in accordance with the Pacific Finance installation as it actually operates. It may be necessary for the Pacific operation that the reset circuits cannot be completed even though the signal machine bridges the gap between the reset strip and the signal reset segments on the machine,

(Testimony of George N. Crabbe)

unless the hoistway doors are opened and then re-closed. I would have to check a little more thoroughly to answer that positively.

If this is so, it would not be a difference in operation from that indicated on Exhibit 9 because I don't see what the door makes any particular difference in this case.

(T. 728)

There is undoubtedly a difference in the way in which the function of resetting is performed, but it does not affect, as I see it, the operation in question. That is the parts that are controlled by the Parker patent.

That difference in operation would make a difference in the way in which the elevator system functions. I would say that was an engineering detail that would have to be taken care of. If you didn't open the door you might not want to reset your magnet. I don't know whether Parker patent would reset the button by passing a landing irrespective of opening the door. I imagine provision would be added to the Parker patent, the same as it was here, to take care of those door conditions without altering the patent. (T. 728)

The patent disclosure doesn't mention doors and gates.

The passing of the car wouldn't *rest* the button. The stopping of the car at the floor would reset the button.

In the Parker patent the operator can hold the handle over and prevent the handle from being released and thus pass the floor and that would pass up all these buttons that otherwise would stop the car and that would reset the buttons.

In the Pacific installation you can pass up your buttons and leave them set. I believe they would stay set.

(Testimony of George N. Crabbe)

I do not believe that Parker says anything in the patent about prohibiting the operator from passing the calls. It would be a dangerous thing to operate a car so that the operator had no control of the car. He must always have means for stopping the car whenever he wishes and unfortunately you cannot avoid the condition that the operator must have means for passing up a passenger who wants to get in the car. If you give him means to stop the car, he could, if wrongly used, use it to pass passengers.

The intent of the patent is that the operator, if rightfully operating the car, will always have to stop when the passengers want him to stop. (T. 730)

It would be foolish if the car was full of passengers to compel the car to stop at the remaining floors when it could not take on any more passengers, and it is essential to a practical elevator system, even though it has automatic stopping, that the elevator operator be enabled to pass up the hall signals. Parker does not consider that condition in his patent. He makes no mention of it at least. (T. 731)

The starter in the Pacific Finance Elevators, I believe, has means of keeping the cars in schedule. If I recall, they have no device that automatically schedules them. If one car is not keeping up with the schedule ahead of another car in the bank, the starter signals the car that is behind to come on through and disregard any hall signal. That requires that the hall signal be left set for the next car.

The Parker patent does not cover that condition. That is a condition that arises in elevators practice with which I imagine Mr. Parker was entirely ignorant. There is

(Testimony of George N. Crabbe)

nothing in the Parker patent that shows any connection between one car and the next car. The next time the car came down, it would not stop unless the buttons were repressed in accordance with the Parker design. But that is not the purpose for which Mr. Parker intended that the handle should be used.

The mechanism referred to in connection with Pacific Finance Building that permits the scheduling of elevators has nothing to do with the signals at all, and is not shown in Exhibit 8, 9 or 16. It has nothing to do with the lights. The stopping mechanism is separate from the signals.

There is no scheduling system shown in these diagrams, Exhibits 8, 9 or 16. We do show in those diagrams circuits that operate in a certain way to reset the buttons. We show circuits in there that are operated by the buttons which control or initiate the stopping of the elevator, and we show means for resetting those buttons, and we show a particular circuit for resetting them in these three exhibits. (T. 736)

Referring to Exhibit 9, the middle of the diagram and the part entitled "Up reset strip," and then the contacts, and then R-4-U, R-3-U and R-2-U, the circuits which perform a similar operation are shown in SK-500-239A. They are not the same circuits as shown on Exhibit 9 in that they may have other relays that are operated by these same contacts, but the circuit or the time of operation and the method of operation are the same.

The witness was asked whether he had shown on Exhibit 9 one coil that must operate in series with another,

(Testimony of George N. Crabbe)

and if either part operates out of time with the other, that the other cannot function, and he stated—no there is no such circuit there. That is what I meant this morning when I said an engineer would revise those circuits to avoid that condition in the mode of operation between the circuits that you have shown on Exhibit 9 for resetting the buttons and those that actually exist in the Pacific Finance installation in the scheme of operation. (T. 737)

Exhibit 9 shows schematically the same as the diagrams for the Pacific Finance show, and if an elevator were built embodying this principle, it would operate to perform the same function.

After the stop has been initiated, and sometime between the initiation of the stop and the stopping of the car, the button which causes the car to stop at a particular floor is reset. That is shown in the schematic diagram, and that is the way it works in the Pacific Finance Building.

The resetting, in accordance with the Parker patent, is brought about by the car stopping circuit being energized. In the Pacific Building, it is reset by the closing of the door, not by the stopping of the car, but it is reset during the time when the stop is initiated.

I would not say that these diagrams brought in here show that resetting accomplished by the stopping circuit. Exhibit 9 shows it later than the stopping. (T. 739)

Exhibit 16 is a further simplification of Exhibit 9. Exhibit 8 and Exhibit 16 are the same so far as the wiring is concerned, and in making this schematic dia-

(Testimony of George N. Crabbe)

gram that difference in time was left out to simplify the circuits, because it was immaterial to the operation in question.

In Exhibit 16 the buttons are reset by the stopping circuits at the same time. The same contact initiates the stopping circuits and that is not mechanically correct in the Pacific Finance installation. Schematically it is that way. (T. 740)

Exhibit 8 shows it in that way with the hall buttons being reset by the stopping circuits but 9 does not. I said that 8 and 9 were the same in operation. The fact that one shows the reset buttons actuated by the stopping circuits is merely a detail that could be added.

Referring to Exhibit 9 that diagram shows the circuits for the coils of structures 1 to 3 and 2 to 4, as controlled, that is, released by the energization of the coil of the relay marked E.

In this diagram the reversing switch 1 and 3 or 2 and 4 are not, while they are still the same—cover the same functions, performed by the reverse switch on the diagrams, for the Pacific Finance they also include the action of all the relays which cause the starting of the elevator and the slowing down of the elevator. While the contact of the relay e is not actually in the reversing switch circuit, the opening of this contact initiates the slow-down, and therefore schematically it is correct to place it in the circuits of the reversing switch coils. (T. 743)

There is a relay e in the Pacific Finance system. It is marked e-1, e-2, e-3, and then a line under the 3, and below that is e-a.

(Testimony of George N. Crabbe)

In the Pacific installation the direction switch is opened by a contact on the leveling drum, instead of by a contact such as e, as I have shown it in Exhibit 9. The reason for it being shown in Exhibit 9 differently has been explained.

The function of the machine in the Pacific installation is part of the automatic slowing down of the elevator and therefore in this particular diagram is represented by the reversing switch.

I don't believe there is a race of circuits as defined by counsel for defendant. There are two magnets and series. I would not say that each must function before the other has completed its function. I think all that needs to happen there is that one functions before the other.

Looking at the HR-2-U and the coil H on Exhibit 8 they are not in series. R-2-U and HR are in the same series. I think it is perfectly satisfactory for schematic purposes because it shows clearly what the intention is. The two coils corresponding to R-2-U and H are not in series in the Pacific Finance installation. If H closes its contact before R-2-U functions, there is nothing to prevent R-2-U operating. There is a contact e in the circuit and as shown in the diagram it would operate.

There is a time element there from the time that H operates. H must operate and then E must operate before it breaks the circuit, and during that interval of time R-2-U has had time to operate. It could be made to work in a circuit like that. Under certain circumstances it might be considered good practice to have a circuit of that kind, but, as I said before, an engineer would do

(Testimony of George N. Crabbe)

the same as was done in the Pacific Finance installation to get a better circuit. But for schematic purposes it is easier and clearer to show it in this way than to show the complications of the other. (T. 747)

If the distinction between the circuits is immaterial to the operation, a schematic drawing may show circuits that do not actually exist in the structure. They are shown the way that they are. They are not shown that way in Exhibits 8 and 16, because it makes a simpler diagram and easier to see the points that are intended to be brought out by showing it as it is shown in Exhibits 8 and 16.

If the circuits were put in Plaintiff's Exhibit 16 as they actually exist, it would have had more wiring and would be more difficult to read, and I don't think it would be, as far as the principles involved are concerned, any different. It would look less like the Parker patent drawing only to the extent that you would have more relays. The other parts would be just the same; the master switch would be the same and the floor selector and push buttons and the pole-changing switch. (T. 748)

Exhibit 8 does not show the Ward-Leonard variable voltage system, the slow-down system or the brake arrangement of the Pacific Finance Installation.

Referring to the Ward-Leonard system, the braking and other matters of that kind and the slowing down, those different things are put in operation when you push a button to set the car and then to operate in order to complete the steps that bring the car to a stop.

In comparison with the Parker system, as shown in the Parker patent, instead of the circuits from the floor

(Testimony of George N. Crabbe)

selector going back to the car switch to interrupt a main control that shuts off power to the motor, the stopping circuits from the floor selector in the Pacific finance installation pass through the primary slow-down drum, the secondary slow-down drum, and the leveling drum. And even after those circuits have been set up by the bridging of the contacts on the floor selector, the power to the motor will not be shut off without further movement of the car. (T. 750)

After those circuits have been set up there is further movement of the car before it comes to rest. That has to do with the slowing down of the car, reducing it from the full running speed down to the stopping speed. It does not have to do with the self-leveling. That stopping mechanism might be considered as functioning all the time and it is the making of contact on the floor selector that closes the circuit, which allows that to slow the machine down. The making of the contact on the floor selector does not make an impulse in the slow-down mechanism, but it establishes a circuit. That, together with the operation of the slow-down device, causes the machine to slow down and stop.

Referring to Exhibit 8, the coils HR-2-U, HR-3-U, HR-4-U, and HR-2-D, HR-3-D, and HR-4-D and coils R-2-U, R-3-U R-4-U, and R-2-D, R-3-D, and R-4-D, are marked with the same symbols as shown on the defendant's drawing of its signal panel Figure A. (T. 753)

In Figure 8 and defendants' diagram A, I think they are in the same circuit.

(Testimony of George N. Crabbe)

The witness was referred to Exhibit 4-I, which is defendant's drawing A of the series, and his attention called to a coil which the witness had called R-3-U and was asked whether that coil can be found in series with the third floor up hall signal relay contact HR-3-U.

The witness answered—No, that contact is not in series with the R-3-U coil on the Pacific Finance wiring diagrams, but it is in series with another relay PL, which functions by the same means as the coil R-3-U, namely, the car flashlight strips. (T. 755)

The coil R-3-U and the relay contact HR-3-U are shown in series in Figure 8 merely for simplification. That would make a difference in operation if you consider Exhibit 8 as purely schematic. As shown in Figure 8, the closing of the third floor up hall signal contact HR-3-U would energize the third floor up signal reset relay when the floor selector makes contact. (T. 756)

In the Pacific Finance Building installation, there is no relation between the closing of the contact HR-3-U and the energizing of the coil R-3-U. There are two circuits established by that same contact strip on the signal machine, the one which is described as one of the circuits, and the other is the one that initiates the stopping of the elevator machine, so that it is a fact that the coil R-3-U is energized by the Randall signal machine contact closing a contact in series with the door contact closed momentarily when the hoistway door is closed in the Pacific Finance installation in lieu of the operation that is shown in Exhibit 8. (T. 756)

In the diagram Exhibit 8, the signal is reset while the car is running but in the Pacific Finance installation,

(Testimony of George N. Crabbe)

when the car is at rest at the landing, by the closing of the hoistway door in connection with the Randall Signal Machine. (T. 757)

In that respect my diagram is not in accord with the actual circuits and operation of the Pacific Finance installation in the detail of operation, but in the principle of operation that control is there.

In my diagram Exhibit 8, the signal reset coil R-3-U is energized at the same time relay H is energized. It is possible that contact HR-3-U would open before relay E, controlled by contact H, would close its contact E in a circuit, as shown in Exhibit 8, but that could be prevented. I would not recommend such a circuit in elevator equipment but in making a schematic diagram I would.

If that discrepancy existed, the relay E could not be energized to open its contacts E-1 in the circuit of the direction contactor 1 to 3 and 2 to 4 and the car would not stop. (T. 757)

In Exhibit 8, there is shown a circuit for up direction contactor 1 to 3, which is connected in series relation to the coil in relay RCA. That circuit does not exist in the Pacific Finance installation, but a similar function is performed, but not by the same circuit.

In the Pacific Finance installation the coil of RCA is controlled by operating a latch on the drum switch 1-9-CS, Figure 6. With such a connection as shown in Exhibit A, the coil RCA would be energized at all times that the switch labeled "Up car switch contact" is in circuit closing position, that is, when the drum switch 1-9-CS, Figure 6, is held over in the up position, and

(Testimony of George N. Crabbe)

with the switch in this position the circuit of coil E would be broken, and hence the car would not be stopped in response to the operation of any of the hall or car buttons. (T. 758)

As to whether in the Pacific Finance installation the operator may hold the drum switch in the up position, but the car will automatically slow down in response to hall or car buttons, I can't say positively without checking over the diagrams, but I believe that is correct.

In other words, as distinguished from Parker, in the Pacific Finance installation holding the car switch over to running position will not cut out the automatic stopping.

Figure 8 shows contacts 1 to 3 operated by the direction contactor 1 to 3 to complete a self-holding circuit for this contactor. That construction is not found in the Pacific Finance installation, but a similar construction is. I would say it was the same construction. We show it as auxiliary contacts on the reversing switch, whereas in the Pacific Finance they use a relay in series with the reversing switch and use the contacts of that. I would say that there is no difference between the two; none from an engineering point of view, and there is no difference whatever in operation.

Figure 8 shows a floor selector having a bridging contact, which simultaneously contacts with the selector segments connected with the car buttons and with the segments connected to the hall signal reset relays.

As to whether such a construction can be found in the Pacific Finance installation, as explained before, the

(Testimony of George N. Crabbe)

diagram is schematic, and, inasmuch as this did not affect the operation as it referred to the Parker patent, I can see no objection in showing them operating simultaneously. (T. 760)

In Exhibit 8 the coils for the relay H are shown as being arranged to be connected in series with the hall signal reset relays R-2-U, R-3-U and R-4-U, and are arranged to be connected directly with the car buttons 2-3-4.

No such circuit exists in the Pacific Finance Building. The condition does not exist in the Pacific Finance for the same reason as previously given.

In Exhibit 8 I show the contacts 2-4-A and 1-3A as connected to the continuous contact strips on the floor selector. There is no such arrangement of contacts operated by direction contactors 1 to 3 and 2 to 4 in the Pacific Finance Building, but there are contactors marked U-O-2 and D-O-2, which are equivalent to auxiliary contacts on the direction switches.

As to whether the Pacific Finance installation only normally closed contact operated by contactors 1 to 3 and 2 to 4 are those used to control the residual killing circuits for the Ward-Leonard generator, I can't answer that question without checking all the way through.

Exhibits 4-I to VI are schematic diagrams. They are not in fact actual construction diagrams. Some of them may be construction diagrams, but others are straight line diagrams.

There is no mechanical brake structure shown in these diagrams.

(Testimony of George N. Crabbe)

Referring to testimony on direct examination, the question was how a brake was represented on the wiring diagram and by the answer I meant to infer that a brake was only represented by the coil itself and not by the rest of the brake mechanism, indicating that the diagram was entirely schematic. There are other coils and resistances there. (T. 764)

On direct examination I stated in reference to the Pacific Finance installation that when the car is controlled by the car switch only, there is no automatic self-leveling and the operator has but two operating speeds. I wouldn't be certain that it has three operating speeds on manual control.

The witness was referred to direct examination in describing the Pacific Finance installation, where he said that the contacts LF-1 and LF-4 (C-2-D) and (C-2-E) connect a damping winding on the generator in parallel with the generator shunt field, and was asked whether his statement was correct.

The witness said he would have to check the wiring diagram and answered: You will note that in this description the following sentence says, "It is not certain whether this dampening winding is connected so as to assist or oppose the main winding, but the indication is that it is connected in opposition." And where I said it was connected in parallel with the shunt field, it was meant that it was connected in parallel with part of the shunt field circuit. No attempt was made to describe the action of that field, because it was immaterial to the Parker patent. (T-767)

(Testimony of George N. Crabbe)

MR. L. S. LYON: If your Honor please, in these statements that the witness makes as to what is material to the Parker patent, I suppose that I can have my exception to those without the necessity of interrupting the examination. They are none of them called for by the questions, and they are incompetent, most of them.

THE MASTER: Yes. (T-768)

I could not say off-hand whether those two windings are energized at the same time in operation.

Referring to previous statement that when the car reaches a pre-determined distance from the floor a brush of the commutator will connect the flashlight strip (A-2-C) to the commutator machine segments 1-S-3-U (A-2-D), causing the hall light to be illuminated (A-2-D) and relay #1-PL to operate (A-2-C), and whether this hall light is lighted two and one-half floors away from the floor at which the car is to be stopped, I would say that I do not know the exact distance nor do I know exactly how far away from the floor at which the car is stopped is the PL relay energized.

I believe that they were energized at the same time, the lights illuminated at the same time that the relay is energized. I cannot recall whether we checked that or not or whether I took it from the wiring diagrams. (T-769)

I testified in a suit brought by the Otis Elevator Company against Kestner & Hecht, which is now pending in the District Court for the Southern District of Illinois. The Kesten & Osborne reissue patent No. 15,733 covers the self-leveling or micro-drive elevators made and sold by Otis. In my testimony in the case of Otis v. Kest-

(Testimony of George N. Crabbe)

ner & Hecht I attributed to the elevator installations under the Kesten & Osborne patent many of the advantages which I have here testified as being attributable to the Parker patent. Accidents are reduced by any car that is brought level with the floor, no matter how it is done, whether by self-leveling or due to the fact that the car stops automatically.

As to whether the Parker system has anything to do with the actual bringing of the car to the floor level, the fact that you have automatic stopping makes the car easier to control.

After the car arrives near the floor, the Parker system has no self-leveling in it.

The Master asked whether the patent specifically describes any slow-down or braking or self-leveling mechanism. The witness answered—no, it does not describe any specific slow down or stop or self-leveling mechanism. (T. 772)

If you cut the power off, it is going to stop sometime.

The witness was asked to refer to the Parker patent drawings, particularly to the floor selector switch designated S in the upper right-hand corner of the drawing, and state whether there is only one or more than one brush for making the contacts on that device, and the witness answered—

To me the drawing indicates that there must be a bridging member which, in the up direction, is called 34, and which bridges between the ring G and those contacts that are marked f; whereas in the down direction there must be a bridging member connecting ring g′ with the

(Testimony of George N. Crabbe)

contacts which are marked f with primes. The number of the other arm in the drawing is 34. The down arm would be 34′. It is not shown on the drawing, but Mr. Parker indicates that such a thing was intended in the specifications, as follows:

"It will be understood that a similar secondary control circuit, employing similar devices for actuating the operative closing of the same, is provided for controlling the automatic stopping of the elevator car during its descending travel." (T. 773)

That is on page 4, line 87.

That is the only written statement that I recall now in the patent that refers to that, but there are other reasons why I, as an engineer, would put a second brush on there.

The specification directs, in the sentence immediately following the one last quoted, that in order to avoid repetition of description he has designated the wiring and parts of the latter descending secondary control circuit, as shown on the drawing, with the same reference numerals and characters to which, for the purpose of distinguishing the same from the ascending secondar*dy* control circuit and its parts I have affixed the prime character.

I find in the drawings those various additional contacts and all the circuits with the corresponding reference characters and the prime added thereto. With respect to the second brush on the selector, I put it in this wiring diagram, Exhibit A, without ever noticing that it was not shown on the patent. I knew that a second brush was required at the time I gave my depositions in this case.

(Testimony of George N. Crabbe)

As to whether these brushes were shown in the patent, there must be two bridging contacts shown in the drawing. That would have to be electrically disconnected.

(T. 776)

There could not be one brush electrically connected, one brush would have to stand between the ring g and the f contacts and the other between the g′ ring and the f′ contacts.

I cannot recall whether I knew that at the time I testified and gave my deposition in this case in New York. It may have been called to my attention at that time.

This line of question objected to, and counsel stated that it was for impeachment purposes. The witness was asked by Mr. L. S. Lyon:

Did you testify as follows in your deposition taken in this case, commencing on June 20, 1928, and ending on June 21, 1928, before Herbert B. Sansom, a Notary Public in New York City, New York, the original of which deposition I now hand you: "XQ113. Will you refer to the Parker patent, particularly to the floor selector switch designated S in the upper right-hand corner of the drawing, and state whether there is only one or more than one brush for making the contacts on that device? I am referring to the brush designated 34.

"A—There is only one brush."

MR. LANE: Just a minute.

MR. L. S. LYON: I haven't finished yet.

MR. LANE: All right. Don't answer until I finish.

Q BY MR. L. S. LYON: (Reading) "By Mr. Lane: XQ114. You are speaking of the drawings now

(Testimony of George N. Crabbe)

as distinguished from the specification? A—Referring to the drawing in the patent there is only one brush shown on the drawings.

"By Mr. Parker: XQ115 That brush is referred to as 'a contact brush 34' at the top of page 4 of the specification is it not? A—Yes.

XQ116 In the diagram of the Parker patent which you testified you caused to be made and which is in evidence here as Plaintiff's Exhibit 7, will you please point out where that contact brush is shown and mention the reference number on the exhibit if it appears there?

"A—That contact brush is represented on the drawing, Exhibit 7, by the two parts 34 and 34'.

"XQ117 So that in making up that drawing instead of using one brush as shown in the Parker patent you showed two separate brushes, did you?

"A—Those are not really two separate brushes. It is really one brush divided into two parts to simplify the diagram.

"XQ118 They are separate as shown on the drawing, Exhibit 7, are they not?

"A—They are separate mechanically. I do not think they are electrically." (T. 777, 778)

Objected to on the ground that these depositions were not admitted, because of objection of the defendants. The quotation begins at page 132, beginning at XQ113, and continuing on down through the next page, XQ118.

The witness stated that he testified that way.

Mr. Lane then requested that the rest of the cross-examination be copied in from question 118 on, which is as follows:

(Testimony of George N. Crabbe)

"XQ118 They are separate as shown on the drawing, Exhibit 7, are they not? A They are separate mechanically— do not think they are electrically.

"XQ119 To that extent, whatever the difference may be, this drawing, Exhibit 7, does not follow the Parker patent, does it? A This drawing, as stated in the title is a straight wiring diagram.

"In making a straight wiring diagram it is always the prerogative of the person making that diagram to divide the parts up as he sees fit as long as he does not destroy the circuits.

"XQ120 May he at least change the mode of operation and the results accomplished and still have an accurate copy of the disclosure he is working from? A The mode of operation has not been changed. The points 34 and 34′ move together; so that the patent reads on this diagram the same as on the actual diagram in the patent.

"XQ121 Do you mean to say that in your diagram, Exhibit 7, the two parts 34 and 34′ move as one unit in their operation? In answering that question you may refer to your answer on your direct examination in which you gave a description of this exhibit. A Yes, those two points move in unison." (T. 783)

The witness said from the following question, XQ119, and the answer thereto, it would appear that in answering question 118 I did not follow the circuit through correctly, because it states: "In making a straight wiring diagram it is always the prerogative of the person making that diagram to divide the parts up as he sees fit, as long as he does not destroy the circuits." (T. 785)

(Testimony of George N. Crabbe)

VOLUME 6.

LOS ANGELES, CALIFORNIA,
TUESDAY, APRIL 9, 1929.

(T. 786)

CROSS-EXAMINATION

of

GEORGE N. CRABBE

resumed by Mr. L. S. Lyon.

Referring to page 3, line 59 of the Parker Reissue patent specification, reading:

"It will be understood that the invention would include the use of such floor buttons when the car buttons were omitted, if such an arrangement should be desired, and vice versa."

It would appear from that sentence which I understand to mean there are no car buttons, only buttons located at the floors for stopping the car, that under normal operation the car will be stopped from floor buttons only and still will be started from the car.

(T. 787)

An elevator that is started by means of the car switch by the operator and stopped by means of buttons located in the hall is the kind of elevator which that sentence discloses to me, if car buttons are omitted.

When I made the statement that the Parker invention resided in an elevator having the manual control switch in the car for starting the car and buttons on the floor

(Testimony of George N. Crabbe)

and in the car for stopping the car, I referred to the portion of the patent where he said that that is the scheme of operation of the patent.

If the rest of the operation is as described in that sentence, the invention is equally present in an elevator that lacks the car buttons on the one hand or lacks the floor buttons on the other.

Both car buttons and hall buttons function to stop the car; therefore the functions are the same. The car buttons will function just the same if the hall buttons are omitted. (T. 788)

The elevator could be operated in accordance with the Parker patent with only car buttons and the hall buttons would function just the same if they were retained in the system but the car buttons were omitted.

As to whether that is equally true of the Pacific Finance installation, the car can be stopped by either pressing a hall button or a car button and therefore if no hall button be present the car will operate on the car buttons, and vice-versa.

The witness was asked whether the Otis signal control includes an elevator system comprising means for bringing an elevator from rest to full speed and means rendered operative by the operator for automatically initiating a reduction of the elevator speed at different fixed distances from a desired landing. (T. 789)

Objection.

Overruled.

(T. 790)

The witness answered, the answer to the first part of the question is yes; to the second part, I do not recall

(Testimony of George N. Crabbe)

any means under the control of the operator for slowing down an elevator fixed distances from the floors.

The push buttons in the car automatically initiate a reduction of the elevator speed at different fixed distances from the desired landing.

The buttons in the car initiate a slowing down and stopping of the car but not at different fixed distances from the floor. (T. 791)

The Otis Signal Control includes an elevator system comprising an elevator car, a plurality of landings, and at least one intermediate landing, means for bringing the elevator car from rest to full speed, means for automatically initiating slowing down of the elevator car as it approaches any selected one of said landings, and automatic means for rendering said initiating means effective at different distances from the selected landing. (T. 794)

That is included in the disclosure of the Parker patent only to the extent that Parker says that any means for slowing down and stopping the car can be used with his patent. (T. 795)

As to where that is shown in the patent, page 5, lines 23 to 30 state:

(T-795)

"Of course, it will be understood that the timing of the automatic secondary circuit-closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alignment with the floor level."

(Testimony of George N. Crabbe)

When they refer to the operation of the usual braking mechanism, that immediately implies to me anyway that whatever type of braking mechanism is desired can be used there. If a braking mechanism that was not invented at the time of the Parker patent comes along and you wish to add it to the Parker patent I do not see why you should not do it. You can add to the Parker patent any of those things.

Q Was this arrangement that I have defined in my preceding question, that is, in the Otis signal control system, which includes automatic means for rendering the initiating means effective at different distances from the selected landings, known in the art on April 25, 1921?

MR. LANE: That is objected to as incompetent and immaterial.

MR. LYON: What I want to show is as to whether what is in this Otis signal control was known or whether that is some other invention of a later date.

THE MASTER: That matter came up quite a long time ago, and Mr. Lane, I think, said that he would stipulate, for the purposes of this case, the Otis signal control amounted to invention over the Parker patent.

MR. LANE: Not the Otis signal control, but the braking mechanism and other apparatus, the self-leveling apparatus. (T-797-798)

Mr. Lane stated that he would admit for the purposes of this case that the slow down and braking mechanism in the Otis elevator are invention apart from the Parker patent. (T-802)

The brush magnet on the selector is the device in the Otis signal control system that changes the position at which the beginning of slow down occurs.

(Testimony of George N. Crabbe)

How it accomplishes that depends upon the speed of the car.

It varies the distance depending upon the speed of the car by shifting the brushes on the selector.

I do not recall ever having seen or heard of that prior to April 1921.

(T. 803)

I could not answer as to whether I could have added that to the Parker disclosure at that time by the exercise of ordinary engineering skill.

The different variation in distance at which the slowing down is initiated in the Otis signal control does not vary in direct proportion to the elevator car speed.

The position of those brushes does not vary in direct proportion to the car speed. (T. 804)

The witness was then asked: Does the Otis Signal control include an electric elevator system comprising an electric car, a car switch having a neutral position, a plurality of landing positions and a stopping position, means operative when the car switch is in running position for causing the starting of the car and bringing the car up to a speed determined by the running position that the car switch is in, and means rendered operative when the car switch is in off position, for causing the car to be maintained at said speed until the car arrives at a certain distance from the next landing, and then causing the slowing down and stopping of the car at said landing, which I will characterize as the next floor stop? (T. 805)

Objected to.

Sustained as not describing a structure.

(Testimony of George N. Crabbe)

Exception.

The Master refused to instruct the witness to answer for the purpose of the record.

Exception.

(T-807)

As to how the Otis signal control makes a next floor stop, the selector, the throw-down switches on the controller do it.

That mechanism has nothing to do with the Parker specification.

I cannot tell whether I could have added that to the Parker disclosure at the time of the Parker application on April 25, 1921, by means of my engineering skill.

I cannot tell what I would have done had I known less than I know now.

MR. L. S. LYON: In order to shorten this up, I will ask the witness if he can identify the drawings and disclosure of the patent No. 1,632,226, granted June 14, 1927, to Otis Elevator Company, on electric elevator system, as disclosing any structure, or the structure embodied in the Otis signal control system.

MR. LANE: Objected to as incompetent, irrelevant and immaterial. It is after the date of the issue of the patent. (T-808)

MR. L. S. LYON: Well, I make this point, your Honor: The witness has attempted to say all these things could have been added to Parker by any skilled engineer.

THE MASTER: You mean everything in the Otis signal control?

MR. L. S. LYON: That is the way I understood their position.

(Testimony of George N. Crabbe)

THE MASTER: No, I don't understand that at all. This witness has never made that statement. If you will point it out to me—No, he didn't make that statement. The only time that came up, Mr. Lane offered to admit that the Otis construction, such as is exemplified by the Standard Oil Building in New York, did contain matters, included matters that were invention over the Parker patent.

MR. L. S. LYON: Well, I think it becomes very important in considering this case on the question of their commercial success. They have a long series of other patents on these installations that they talked about here in connection with the Parker patent, all of which are after the Parker patent, and that is all I am trying to establish here, your Honor.

MR. LANE: Well, I will admit that they did take out a large number of them after the Parker patent, but the Parker patent was responsible for the starting of it and making possible of the additional things that could be adapted for use in connection with it. (T. 811)

Mr. Lyon asked if the drawing of patent No. 1,632,226, granted June 14, 1927, to the Otis Elevator Company, correctly represents the structure that is in the Otis signal control. (T. 813)

Witness stated: I do not think I can answer that question. I do not recognize the Standard Oil Building slow-down structure here although it may be in the substance of the patent. From the drawing I cannot and do not recognize the patent. I am not familiar with it.

Patent No. 1,632,226 marked Defendants' Exhibit C for identification.

(Testimony of George N. Crabbe)

Witness was then asked: Does the Otis signal control system include an elevator system comprising an elevator, a motor for raising and lowering the elevator, a source (T. 814)

of current for said motor, means for automatically initiat- (T-814)

ing a reduction of the voltage of said source to a definite low value, to cause reduction of the elevator speed, and means for automatically causing said definite low value of voltage to be in some direct proportion to the load of the motor?

Objected to as incompetent, immaterial, and a Westinghouse question.

Objection sustained.

THE MASTER: The objection is sustained. I can't allow questions of that type.

MR. L. S. LYON: I ask for the answer for the purpose of the record.

The Master refused to direct the witness to answer. Exception. (T-815)

I would have to refer to the diagram to state whether there is any relation between the load on the motor and the reduction in elevator speed in the Otis signal control.

The witness was handed six patents to look over, to find out whether witness knew whether or not the particular structure is embodied in the Otis signal control.

Short recess. (T-818)

Witness was then asked: During the intermission you have examined the two Grosvenor patents that have been heretofore identified, and four other patents, the numbers and dates of which are as follows: Dunn patent

(Testimony of George N. Crabbe)

No. 1,547,306, Dunn patent No. 1,678,423, Larson patent No. 1,694,823, and Lindquist et al. No. 1,694,712, all issued to the Otis Elevator Company. Will you now state whether or not what is disclosed in these patents, or (T. 819)

any of them, is embodied in the Otis signal control system? (T. 820)

Witness stated: In regard to the two Grosvenor patents, I can't say positively whether the device that we use at present on signal control for changing the slow-down distance, automatically changing the slow-down distance, is covered by those patents or not. The construction is different than is shown in the drawings there. In regard to the two Dunn patents, the first one, No. 1,547,306, shows a leveling switch apparatus operated from the car, but not mounted thereon, which is different than the construction we at present use, although the principle of operation is the same. In regard to Dunn patent 1,678,423, the construction shown there is similar to what we use with our signal control apparatus at the present time; but I am unable to determine from this examination what the difference between the two Dunn patents is. The Lindquist patent and the Larson patent I don't see pertain to signal control at all, because they refer to automatic push-button elevators. (T. 821)

The second Grosvenor patent marked Defendants' Exhibit D for identification.

The first Dunn patent No. 1,678,423 marked Defendants' Exhibit E for identification.

Dunn patent No. 1,547, 306 marked Defendants' Exhibit F for identification.

(Testimony of George N. Crabbe)

Larson patent marked Defendants' Exhibit G for identification.

Lindquist et al patent marked Defendants' Exhibit H for identification. (T. 822)

As I recall, Mr. Larson did some work on automatic stopping of elevators prior to the Summer of 1920 for the Otis Elevator Company. I do not think anyone else did. (T. 823)

As I recall it he was not working on anything definite. It was more a feeling around to develop something whereby an elevator could be stopped automatically and there are no records of that work because it never advanced to a stage where records were of any value.

I do not know of anyone who assisted Mr. Larson and *I* did none of the work myself.

I imagine the work was discontinued because of the press of business. I do not know what designs or arrangements Larson worked out at that time.

REDIRECT EXAMINATION

by Mr. Lane.

In the Pacific Finance installation if only one of the bank of four elevators is operated the remaining one operates in the same manner as it did before the others were cut out of service. (T. 824)

(T. 824)

All you have to do is to bring the cars that are not to be run down to any floor and leave them; in other words, allow only one car to run.

The car is started by the operator and after the car has started the operator returns the operating lever to center and the car will stop at any floor in response to the car buttons or hall buttons that are pressed. (T. 825)

(Testimony of George N. Crabbe)

If the power is completely cut off from three of the elevators in the Pacific Finance Building the operation is just the same as described in answer to the previous question. (T. 826)

As to how in the Pacific Finance installation the buttons in the car operate, as far as the pushing of them is concerned in both the up and down direction, when the car is going up the pressing of the car buttons controls the stopping of the car in the up direction. When the car is descending the pressure of these buttons functions to stop the car in the down direction.

As to whether there is any mechanism in the Pacific Finance installation which throws the buttons which have been pressed in the up direction completely out of operation at the end of each run, I would say yes; at the terminal landings the buttons are all reset; that is, those that have been pressed automatically are released and open the circuits which were closed. (T. 827)

When the car is ascending the buttons act as up buttons controlling the stopping of the car in the up direction, and when the car is descending they act as down buttons, controlling the stopping of the car in the down direction.

Different circuits are used for the up and down stopping of the car in the Pacific Finance installation.

As to how long the Otis Elevator Company had recognized the necessity for the functions that are served by the Parker device previous to the date of the application of the Parker patent, I should say for a period of five or six years; possibly longer than that. It was known that there was a want for a type of elevator that would

(Testimony of George N. Crabbe)

function in the manner as shown by the Parker patent. No one to my knowledge, in the Otis Elevator Company, had solved that problem previous to that time. (T. 829)

RECROSS EXAMINATION,

by Mr. L. S. Lyon

I do not know whether you would call the operation of a single car at the Pacific Finance Building a normal operation. We saw this car operated on a Saturday afternoon, but of course the building was practically empty and very little use for elevator service. (T. 831)

As to whether in the normal operation of a single signal control elevator the car has occasion to pass signals that have been actuated to stop the car and pass them in such a manner that the car is not interrupted, I would say that under normal operation of a car it may be (T. 831)

necessary to pass floors where a button has been pressed, as for example, a fully loaded car.

Considering the operation of a single car in the Pacific Finance Building, that would only occur at night, or on holidays, or Sunday afternoons, or sometime when the elevators were not subjected to their nomal traffic conditions. (T. 832)

Whenever the elevator is operated alone in the bank and the other three cars are not operated, the stopping of the car by the buttons is all through the bank system just the same as if the other cars were running.

That applies only to the hall buttons, of course, and there the same relay is actuated by the pressing of the button or controlling one floor as would be actuated for controlling a number of cars.

(Testimony of George N. Crabbe)

The buttons in the Pacific Finance cars function only in one direction at a time.

The buttons are used in the car whether it is going up or down and those same buttons become down buttons when you go in the other direction. (T. 833)

As to whether when you are going down there are any up buttons in the car, I would say there are no buttons connected in the up-stopping circuit.

(T. 833)

As to whether there are any up switches in the car when the car is going down I will make the distinction that you cannot speak of them as up and down switches. When the car is going up the switches are in up circuits and when the car is going down they are in down circuits and therefore act as up and down push buttons.

At any one given time there is only one set of push buttons in the car.

As to how long the Otis Elevator Company recognized the need of an elevator that performs the functions of the Parker patent, I remember a conference occuring in the office of Mr. Lindquist, the Chief Engineer, shortly after the Armistice was signed, in which a general discussion of automatic stopping of car switch control elevators was had. (T. 834)

I have no recollection of what anyone said about it except that there was a general discussion that it was necessary for us to develop some form of automatically stopping cars to do away with the passing of passengers which was a source of considerable complaint.

I presume that the obvious way at that time was to do it by push buttons on the floors and in the cars. I

(Testimony of Milton Baruch)

cannot recall whether that was actually said to be the best way or not but I imagine that was what was considered. (T.-834)

Q And you can't tell us in detail that any particular effort was made to accomplish that from that date up to the summer of 1921, in the Otis Company?

A Well, I think there was nothing definite done along the line except to make a sort of a survey of the situation and consider from what angles the problem might be attacked.

Q Was any work done on that in 1919 or 1920, in the Otis Company, that you knew of?

A No. As I said before, I can't fix the date definitely. (T. 835)

The Master handed a document to Mr. Lyon which Mr. Lane stated was the wiring diagram of the Otis signal control elevators of the Pacific Telephone & Telegraph Company.

MILTON BARUCH,

recalled on behalf of Plaintiff.

DIRECT EXAMINATION

by Mr. Lane.

The witness was asked to look at the diagrams of the blueprints of the San Diego installation handed counsel by Mr. Lyon and asked to look at drawing No. 400-465-C, and asked to give the indicating marks at the lower right hand corner of the sheet. (T-837)

Witness stated, those marks show that it was a Llewellyn Iron Works drawing and gives the number of the drawing, to which we can refer for our file, and gives

(Testimony of Milton Baruch)

the order number. It is entitled "Automatic Stop Elevator Control, simplified diagram, San Diego Trust & Savings Bank." (T. 839)

Personally I could not tell what the symbol "Made from W diagram 468-013" means. (T. 839)

I do know that a circle with a "W" inside is the Westinghouse symbol.

I do not know whether that particular drawing was made from a Westinghouse diagram.

That mark would indicate to me that there was a Westinghouse diagram. I would not say that the whole drawing was taken from it necessarily. (T. 841)

I would say that a circle with a "W" in it usually means Westinghouse Company.

There may have been some diagrams of the Westinghouse Company which had something to do with this from which some of the ideas were gotten.

I cannot tell you when the installation of the San Diego Trust & Savings Bank was started.

I said previously that it was my impression that it was in the early part of 1927, I remembered having talked with Mr. Lane in the early part of 1927 about that installation. (T. 842)

I was examined in the case of Otis Elevator Company vs. Kestner & Hecht. (T. 843)

I do not know whether the Westinghouse Company was intervenor in that case.

I presume that the date February 7, 1927, when I testified is correct. (T. 843)

Witness was referred to his testimony there as follows: Q—Have you within the last two weeks taken

(Testimony of Milton Baruch)

orders or accepted any contracts for putting in floor leveling elevators with variable voltage control? A—We have not signed any contract in the last two weeks, to my knowledge. Q—Have you any bids out? A—Yes. Q—Where? A—There is a building going up in San Diego on which we are bidding at the present.

Witness stated that he thought the San Diego Trust & Savings Bank job was the one he referred to.

I think we were then bidding on the elevator which is installed there now. (T. 844)

I do not have the date when the contract was accepted after the bid was made in February 1927. I do not know whether we have records to show when the contract was accepted. (T. 846)

I have asked Mr. Walker and Mr. DeCamp to look at the records.

I do not know whether we have any records to show when we first did any work on the San Diego job.

I cannot answer as to when the last work was done on the Pacific Finance Building elevators before the job was turned over and when the job was turned over and paid for. (T. 847)

I have not looked to see whether our records show that. (T. 847)

I was the Chief Engineer of the Llewellyn Iron Works during the time that the work went on in the Pacific Finance Building. (T. 848)

During those years I had a good deal to do with bidding on all classes of elevators. I cannot tell you in detail at this time all that I had to do with bids on all classes of elevators, nor can I tell you for sure that I

(Testimony of Milton Baruch)

ever used the term "signal control elevators" in any of our bids.

I cannot say that I did not. I performed my regular duties and tried to help out in the sale of elevators where I could, and had something to do with the design of them.

I believe that in the Pacific Finance installation there is a self-leveling and floor-leveling device.

I cannot give you the date when the Llewellyn Iron Works started in the elevator business, but it was many years ago. (T. 849)

They were doing elevator business during the war period.

As far as I know the Llewellyn Iron Works never ceased staying in the elevator business.

Mr. Bouton of the Westinghouse Company did not collaborate with me in connection with the self-leving apparatus used in connection with the signal control elevators at the Pacific Finance Building. (T. 851)

(T. 851)

I do not believe I could tell you when we first installed our first floor-leveling elevators like the one used in connection with the signal control at the Pacific Finance Building.

The suggestion was made that the witness could talk with other gentlemen in the room who had the information, and the question he desired to answer is when was the installation of the Pacific Finance Building completed and turned over to the owners of the building with signal control. (T. 855)

We have some data which shows that there were tenants in the building on the first of January 1926 and the elevators were in operation at that time. (T. 856)

(Testimony of Ray Edward De Camp)

I rather doubt whether they were operated at that time as signal control.

I do not know that it is possible to find out the first time they were operated with the use of the push button control.

(T. 858)

RAY EDWARD DE CAMP,

called as a witness in behalf of the Plaintiff.

DIRECT EXAMINATIN

by Mr. Lane.

My name is Ray Edward De Camp; age 39; I am an electrical engineer; and worked for the Westinghouse Company from 1914 until the fall of 1920. I now work for the Consolidated Steel.

I worked for the Llewellyn Iron Works from 1920 until January 1st of this year, and have had something to do with the intsallation of the signal control elevators in the Pacific Finance Building at Los Angeles.

(T. 859)

The last car was completed in May 1926 and was turned over at that time.

I do not know when they were paid for.

The Llewellyn Iron Works has not had anything to do with the keeping of these elevators in operation since the last car was turned over in May 1926.

We have just been called in on regular service. They have their own engineer. The Llewellyn Iron Works has been called in for service. We have been servicing the elevators since the date the installation was completed and turned over to them, in connection with their building engineer.

(T. 860)

(Testimony of Ray Edward De Camp)

I was familiar with the San Diego Trust & Savings Bank installation to a certain extent.

The symbol "Made from W diagram 468-013" means that we took part of the information from a Westinghouse drawing which had the No. 468-013. (T. 867)

That was previous to the time this drawing was made.

I cannot tell when we commenced the mechanical part of the work on the installation. I can give you the electrical work.

The first I knew of any work being done was around January 1, 1928. (T. 868)

I do not know just who would know when they first started that work. We do little work until after our diagram are finished. The diagrams were finished around January 1928.

The Llewellyn Iron Works did mechanical work, guide rails, and such as that prior to the date the drawings were completed. We had the plans laid out for the mechanical work previous to January 1928. I imagine there are some drawings showing the mechanical work which was done previous to that time.

As to whether I can produce these, I am not in the mechanical department. I imagine I could get in touch with somebody. As to whether I could produce them, I will have to refer to Mr. Baruch. (T. 869)

The specifications for the structural work done by the Llewellyn Iron Works for the San Diego Trust & Savings Bank job were done in May 1927. The architect's specifications were laid out at that time. (T. 869)

Those were the specifications on which the job was accepted by the Llewellyn Iron Works.

(Testimony of Ray Edward De Camp)

I do not have those specifications here.

I can get those specifications of May 1927.

I cannot say as to how long after we accepted the contract based on those specifications of May 1927 it was that we started to do some work.

I imagine the only man who would know would be the Superintendent of the plant. (T. 870)

I cannot say as to when the first drawings were made by the Llewellyn Iron Works which led up to the drawing of the final plans which were used in connection with the installation at San Diego.

The first electrical drawings used in the construction of the elevators were finished in January 1928.

I cannot say when the drawings on which those were based were made.

As to the dates for them, we do not have those dates. (T. 871)

As to the dates of the drawings from which those drawings which have been brought in here were made, these are partly our own drawings. (T. 871)

(T. 871)

The only way I would know to get them would be to send to the Westinghouse Company. We do not keep the drawings.

I am not sure that we have the drawings that are shown on diagrams C, H, A, D, and B, which bear the "W" circle mark. I do not know whether the are available or not. (T. 873)

I have produced all the drawings that were used in connection with the preparation for the installation of the San Diego Trust & Savings Bank job.

(Testimony of Ray Edward De Camp)

These are the entire set of drawings that were used.

I have produced all the drawings that were used in any way in connection with the installation and construction of the entire equipment.

That is, these are all the drawings on the electrical equipment.

We have never put out any elevator under the name of signal control as far as I know. I do not know what the company itself has done.

We refer to the elevators in the Pacific Finance Building as automatic stopping elevators. The first installation of automatic stopping elevators was started in March 1925 and finished in August 1925. (T. 874)
(T-875)

The elevators installed in the San Diego Trust & Savings Bank are called automatic stopping self-landing type elevators.

In those elevators the starting of the car is initiated from a car switch within the car in either direction.

You pull the handle of the main car switch over in one direction to go up and in the opposite direction to go down.

The initiating of the stopping of the car is caused either by a push button in one of a series of push buttons within the car or from the landings and the car is automatically stopped at the various landings in response to any button pushed either at the landing or in the car. (T-876)

Q When the operator in the San Diego job has pushed the car switch over to the up position and the car is going in the up direction, the car switch may be moved back to

(Testimony of Ray Edward De Camp)

central position and the car will continue to run, will it not?

A No, sir.

Q What will happen under those conditions?

A The car will stop as an emergency condition.

There are three speeds on that controller and if you push it over to high speed, the third point, it will run high speed.

It will run until it stops from a push button that has been actuated in the hall or in the car or until it strikes the terminal limits.

As to whether when the car reaches a certain landing for which a button has been pushed, the main power circuit is interrupted and the car eventually comes to a stop at the designated (T-877) (T. 877)

point, I would say that the direction switches drop out and the car stops by the interruption of the Ward-Leonard generator field.

So that when the car has been started to run full on, it automatically stops in response to the pushing of a button either from the floor or in the car.

The same thing is true of the installation as to the starting and stopping in the Pacific Finance Building here in Los Angeles. It is a similar operation.

As long as the operator keeps the latch on his car switch held in an operative position, the car will operate normally.

When he throws his car switch on the car will only respond in stopping to the pushing of a button at the landing or in the hall, providing the operator keeps his latch in a closed position. (T. 878)

(Testimony of Ray Edward De Camp)

He may operate it from the car if he wants to to pass pass any given floor by the operator's by-pass button.

That is the only way he can pass a signal.

The car must stop in response to any given signal either from the floor or from the car unless the operator in either the San Diego Bank or the Pacific Finance Building uses the by-pass button.

(T. 878)

Cross-examination

by Mr. L. S. Lyon,

In response to question by Mr. Lane: These drawings which have been produced by Mr. Lyon, 400-465A to I, both inclusive, were used by the Llewellyn Iron Works in connection with the San Diego Trust & Savings Bank elevator installation. (T. 880)

They are absolutely correct as far as it is necessary to show by wiring diagrams the installation installed.

Drawings offered in evidence as Plaintiff's Exhibits 17-A to I, inclusive.

Objected to as incompetent, irrelevant, and immaterial, and without the issues of the pleadings in the case.

Objection overruled.

Received in evidence.

Exception to defendants, subject to a showing on part of Plaintiff that they fall within the issues of the case.

Cross-Examination Continued by Mr. Lyon

Referring to the Pacific Finance installation, as to when it was determined that the automatic stopping means that are embodied in that installation should be employed there, I would say very soon after the Petroleum Securities car

(Testimony of Ray Edward De Camp)

was put in operation, which was some time immediately after August 1925. (T. 883)

Work was started in October 1925 on the Pacific Finance installation.

The four hatchways were in process of installation from January 1925, and from then on until the cars were completed.

(T. 884)

The first car in the Pacific Finance installation was completed and turned over to the building for operation with full automatic stopping as it now appears in the installation on March 4, 1926.

All the cars at that time had been running on manual control, and you could only get one car at a time to change over to the automatic control, and the automatic slow-down and stopping machines by that time had all been built, and the hall signal panel had been built. The Randall signal equipment had been installed; the car panels had been installed, and the motor generator sets and motors. The fact is all of the apparatus had been, with the exception of the three cars which were still running on manual control at that particular time. (T. 885)

The order was given to the Llewellyn Iron Works for the Pacific Finance installation in January 1925. (T. 886)

We have our order sheet which calls for the particular type of elevators that were installed.

I can produce that order sheet and will do so.

Witness handed Mr. Lane a document reading: "As per our specifications and contract." (T. 887)

This paper is issued by the sales department notifying all departments that an order has been accepted and that

(Testimony of Ray Edward De Camp)

work is to be started on what is called for on the face of the order.

(T. 887)

There was a set of specifications as the order calls for specifying the type of elevators to be installed. I am not sure whether I can produce this. I can look for them and will do so. (T. 888)

Mr. Lyon stated that he wanted to show that at that time the contract had nothing about automatic stopping or so-called signal control in the specifications.

Mr. Lane conceded this and the witness was told that they did not need the specifications.

I can produce a record showing that work was actually in progress on the Pacific Finance installation including the automatic stopping equipment as afterwards installed during the month of October 1925. (T. 892)

Following March 4, 1926 the first car was operated as an automatic stopping elevator; beginning March 4, 1926 and continuously thereafter.

The second car was equipped with the automatic stopping equipment April 13, 1926.

The equipment was ready at that time but we had to change over from manual control.

The equipment that we used to conver the secon car from manual control to automatic stopping was completed sometime between October and April and it took approximately two weeks to

(T. 894)

install it. That was completed on the 13th of April.

The third car was completed April 27, 1926; the last car May 11, 1926.

(Testimony of Ray Edward De Camp)

As to when the first car was installed in the Petroleum Securities Building, we started in May 1925 and the car was put in regular passenger service August 4 1925, on the automatic stopping control.

The San Diego cars were not of the same type as are employed in the Pacigc Finance Building. (T. 896)

There are no circuits that are alike.

I do not think that when the architect's specifications for the San Diego Building were written that the equipment as it was later installed in the San Diego Trust & Savings Bank had been designed. (T. 897)

It was not really finished until the drawings were completed in January 1928.

Llewelly furnished its specifications for the San Diego job May 1927.

I am not sure whether I can produce those specifications or not. I will see if I can find them.

Those specifications were furnished before the equipment was designed.

Mr. Lane: We would like the artchitect's specifications and the specifications furnished by the Llewellyn Company for the Richfield Building to be produced.

No objections.

Plaintiff offered in evidence the specifications marked Plaintiff's Exhibit 15 for identification.

Objection. Sustained. Exception. (T. 900)

Plaintiff offered to prove that the witness if permitted to testify would say that the Llewellyn Iron Works had specified, not only in connection with this RichfieldOil Job, but also in other installations, signal control elevators operating in accordance with the Parker patent.

The Master: We will take whatever evidence you have to offer on that

(Testimony of Ray E. De Camp—C. P. Walker)

RAY E. DeCAMP—

Recalled on behalf of Plaintiff

Direct Examination

by Mr. Lane. (T. 901)

I do not know whether the document marked Pl. Ex. 15 for identification are the specifications of the Llewellyn Iron Works for the Richfield Oil job. (T. 902)

I cannot say whether the Llewellyn Iron Works at any time used the words "signal control" in connection with the manufacture, sale, or offering for sale of the automatic stopping control elevators like those in the Pacific Finance Building.

I am not in the sales department.

We use the term "automatic stopping" and do not use the term "signal control."

(T. 902)

I did not hear it used in the Engineering Department.

C. P. WALKER,

called as a witness on behalf of the plaintiff.

Direct examination

by Mr. Lane. (T. 903)

I am an electrical engineer, living in Los Angeles; 40 years old. I am connected with the Consolidated Steel Corporation, successor of the Llewellyn Iron Works.

I have not seen in connection with any of the specifications of the Llewellyn Irown Works the words "signal control".

I do not have anything to do with the sales end of the business.

(Testimony of Milton Baruch)

Mr. Baruch is in charge of it. (T. 904)

Specifications are written by various members of the sales department.

Looking through the Richfield Oil contract I cannot say that it is one of the contracts or a copy of a contract of the Llewellyn Iron Works. I do not know of anyone who can identify this.

The specifications are often written several times before they are ever submitted to a customer, and which edition this was I do not know.

(T. 905)

It is similar to our general specifications for that type of construction, but practically all elevator specifications by different companies are very similar.

Referring to the term used in the specification, I do not know of the term "manual, automatic stopping, signal control, variable voltage, gearless passenger elevators" being used.

The specifications written by architects seldom use any trade name.

I do not know that the specifications in the San Diego job specified signal control elevators.

(T. 906)

MILTON BARUCH,—

Recalled on Behalf of Plaintiff.

Direct examination

by Mr. Lane.

I cannot remember who submitted the final contract for the elevators installed at San Diego and I cannot say who

(Testimony of Milton Baruch)

it was that submitted the specifications for the Richfield Oil Building.

I do not know who would know about it.

The Master: Do you know of anyone who could inform Mr. Lane as to whether the Llewellyn Iron Works ever used the term "signal control?" (T. 907)

Witness answered: I think I would know about as well as anybody and I would say that it was not my intention or that of anyone in our organization to use it. We may have used those words (T. 908)

at times but we did not mean to particularly.

We did not intentionally lead the customers to understand that we were offering the Otis signal control. We would probably have lead the customers to believe that we were furnishing an elevator that we called automatic stopping and which in our opinion performed at least as many functions, if not more, than the competitors'.

They might call it signal control or whatever it might be.

I knew the Otis people had an elevator which they called the signal control.

I was very familiar with that in the competition we had with them on these three jobs—The Pacific Finance; the Richfield Oil; and the San Diego Trust & Savings Bank. (T. 909)

Plaintiff rests. (T. 910)

Counsel for Plaintiff asked if defendants could specify what prior art they were going to rely upon.

In answer to question by the Master, counsel for defendant said they would not rely on all the prior art set

(Testimony of Ray Edward De Camp)

up in the answer, but would narrow it down to the most pertinent ones.

Mr. L. S. Lyon stated that he could indicate some of the art, namely, Strohm; Ongley; Nistle, Worthen,; Crouan; Nickerson, Nos. 403,439; 403,440; and 403,442; Smalley & Reiners No. 634,220; Sundh No. 1,066,678; McFeeley No. 404,361; Leonard, that is the Ward-Leonard patent No. 468,100; Coyle No. 471,100; Ihlder patents Nos. 683,689 and 701.914. (T. 912)

Those are the principal ones we will rely on. (T. 912)

Counsel stated that they would like to take the Master over and let him see the Pacific Finance installation.

VOLUME 7.

RAY EDWARD DE CAMP

Called as a witness on behalf of defendant (T. 916)

DIRECT EXAMINATION

BY MR. L. S. LYON.

My position with the Llewellyn Iron Works from 1920 to January 1, 1929, was electrical engineer, working particularly with elevator apparatus. I am familiar with the Pacific Finance installation.

I made all the drawings and designed the automatic slow-down and stopping machine, laid out the main control panel, the hall signal panels, and the car panels. Practically all the control apparatus on the car was handled by me. The ideas for that came from Mr. Walker and myself in connection with experimental work we had done previously. (T. 917)

(Testimony of Ray Edward De Camp)

Mr. Baruch told us what he wanted the elevator to do, gave us the performance he desired of the elevator, and left it to us to work out.

At the time this was worked out, I did not have any knowledge of the Parker patent in suit, or the original Parker patent. I had never seen it. I did not know the means that were employed in the Otis signal control, or the operation of that means.

After the equipment for the Pacific Finance installation was designed, it was my duty to test the cars and put them in operation for regular passenger service.

I have with me certain drawings, photographs and apparatus to illustrate the construction and mode of operation of the Pacific Finance equipment. Before we produce the photographs, I might describe the Pacific Finance installation in a general way. There are four cars there, which are each rated at 2500 pounds, and traveling 600 feet per minute. Each elevator car includes a hoisting motor, an automatic slow-down and stopping machine, a Randall signal machine, a main control panel, a car panel, for each elevator. Serving the bank of four elevators are two sets of hall push-buttons positioned at the landings in the hall, which are each connected in parallel. The two sets are merely for the convenience of the public, so they do not have to travel so far to press a button.

In the hoistway of each elevator is a Randall master switch, which functions to reset the hall signals in conjunction with the opening and closing of a hoistway door, operating through a Randall signal machine.

I have a number of photographs which I took in the Pacific Finance Building, which show the apparatus in detail. (T. 918)

(Testimony of Ray Edward De Camp)

I have four extra copies of these which I shall distribute; one set that I shall refer to, one set for counsel for the plaintiff, and a set for the Master. They are correct photographs of the equipment in the Pacific Finance installation. These photographs correctly show the equipment as it was installed in the Pacific Finance Building, with the exception of the Randall signal machine which was too inaccessible to get the photograph of. We have also here the photograph of the Randall signal machine because the machine in the pit is where you can't get a photograph of it. These photograhps were taken under my supervision several months ago for the purpose of this case. There are nine photographs.

Offered and received in evidence as Defendants' Exhibits I-1 to -9, inclusive. (T. 921)

Figure 1 shows the elevator hoisting motor, which consists of a Westinghouse gearless motor. This motor consists of a shunt-wound motor with two fields, a starting field and a standing field. Supported by the shaft is the armature of the motor, and also the rope drum at the right hand end, which is 33 inches in diameter, and carries the cables which are attached at one end to the supporting sling for the car, and at the opposite end to the counterweights. There are six cables for each car, the cables passing from the car up over the drum, over U-grooves in the drum, back underneath the pent-house floor to an idler sheave or secondary sheave, which is not shown on this, and back again around the drum a second time, and thence to the counterweights, to give what is known as a double-wrap drive, to increase the traction

(Testimony of Ray Edward De Camp)

between the ropes and the sheave. On top of the motor is shown the elevator brake mechanism, showing an end view of the solenoid, and also showing one of the springs which operate to press the brake-shoe against the brake-drum, to hold the drum stationary after the car has been stopped.

This motor revolves at 69 revolutions per minute for a car speed of 600 feet per minute.

In the rear of the picture, on the right hand side, is the elevator governor, which assists in regulating the speed of the elevator car, and also serves, in case of a dangerous over-speed, to clamp a safety device against the rails, to stop the car. The two cables which are shown at the right of the drawing and in the rear are the two cables which serve to drive the automatic slow-down and stopping machine, only part of which is shown in the upper left hand corner. One of these cables is attached directly to the car, and the other cable goes to the elevator pit, to a weighted sheave, and from thence to the bottom of the car.

Figure 2 shows the automatic slow-down and stopping machine to which we have referred. At the right hand end is the rope drum, marked number 1, around which the ropes are wound in order to rotate the drum. As was previously stated, one rope from the car is attached to and is wound around this drum and secured thereto, and the other rope, we will say at the left hand side, is secured to the drum and wrapped around and led to underneath the sheave in the pit and back to the car. Therefore any movement of the car will result in a corresponding rotation of this rope drum. Integral with this rope drum is

(Testimony of Ray Edward De Camp)

the leveling drum, which is marked number 4 on this particular photograph. (T. 923)

On this leveling drum number 4 are mounted brass cams. There are fourteen of these cams, which correspond to each of the floors. These cams are mounted in helical grooves which are cut into the surface of this drum, and are held in place by clamps. These cams can be slid around in the grooves to make any adjustment that is desirable.

The secondary slow-down drum, number 3, is driven from the rope drum number 1, by means of gearing and internal rods, which are not shown in the photograph. Both the secondary drum and the leveling drum are mounted on a threaded shaft, which is stationary. Therefore, as the leveling drum rotates it will move laterally a distance which corresponds proportionately to the amount of rotation. Hence each cam will be moved into a different position with respect to say, the switch 4-MS, as the car moves up and down the hoistway.

Secondary slow-down drum number 3 rotates at only half the speed of the leveling drum, the leveling drum having a service speed equivalent to the car speed. The secondary drum, on account of only rotating at half the speed, travels just half the distance laterally as does the leveling drum. This secondary drum also has cams which are mounted around the surface of the drum and set into grooves similar to those used on the leveling drum. The cams on the secondary drum are divided into two sets, an odd set and an even set. The reason for this is that the slow-down distance in the Pacific Finance Building being 12 feet or 14 feet requies that

(Testimony of Ray Edward De Camp)

two sets of cams be used. Otherwise there would be an overlapping of the cams, if only one were used. Otherewise there would be an overlapping of the (T. 924) cams, if only one were used.

Driven by the secondary slow-down drum, by means of gearing and rods, is the primary slow-down drum number 2, which does not travel laterally, being mounted on a plain bearing, but rotates approximately 80 per cent of a revolution for the complete one-way travel of the elevator. Around the surface of this primary slow-down drum are positioned switches for each landing. Each of these rods is insulated, and there is one rod for each landing. Each rod, except for the terminal landings, carries two switches, which are marked 2U and 2D, the 2U set of switches being for the up motion of the elevator and the 2D switches being for the down motion. Mounted on the surface of this primary slow-down drum are two short cams, which represent not more than two feet in the travel of the elevator car. As this primary drum rotates these cams will close in succession, both the 2U and the 2D set of switches, as the drum rotates.

The cams do not show. They are so small they are hidden by the switches. These cams, on account of the slow-down distance of the car being 12 feet, or 14 feet, are necessarily spaced two floors apart, in order that in going up to stop at, we will say, the fourth floor, it is necessary to make contact at the third floor, in order to stop at the fourth floor. The same is true in the down motion of the elevator; at the third floor in the down motion it is necessary to close the contact when the car is actually at the fourth floor. This results in a spacing

(Testimony of Ray Edward De Camp)

apart of those cams of approximately two floors, or 24 to 28 feet, as far as the motion of the car is concerned. T. 925)

Each switch, 2U and 2D, carries two contacts, insulated from each other. The up switch has two contacts 2U1 and 2U2, a similar set for all the landings. The 2D switch has two contacts also 2D2 and 2D1. The car buttons are connected directly to 2U1 contact and 2D1 contact. In other words, if the part as marked was the seventh floor, there would be a connection from the seventh floor car button in the car to both the 2U1 and 2D1 contacts.

The same is true of corresponding landings represented by the rods as positioned around the primary slow-down drum. The 2D2 contacts, which is at the extreme left hand end on each switch, are all connected together by a conductor, which is fed from the back contact on the up energizing relay on the main control panel, which we will describe later. The right hand extreme contacts 2U2 are also all connected together by a conductor, which leads to a down energizing relay, which will be described later. Therefore, the elevator in its travel will close successively these switches as the cams pass under the rollers of the switches.

The function of these switches is to set up an odd or an even slow-down combination at the particular time, in conjunction with the car push-buttons and in conjunction with the Randall signal machine and the hall push-buttons for the hall stopping control. (T. 926)

Around the secondary drum are mounted cam-operated switches, which are divided into two sets, an odd set and

(Testimony of Ray Edward De Camp)

an even set, the reason for this being explained before. The left hand set of switches is the odd set and consists of six switches. Three of the switches are used for the up motion of the elevator, and the three on the opposite side, which are not shown in the photograph, are for the down motion. The switches on the right hand side of the secondary drum, the even set, also make a set of six switches, three of which are for the up travel of the elevator and three of which are for the down travel. These switches are operated by rollers, which ride on and off of the cames as the secondary drum rotates in synchronism with the travel of the elevator car.

On the leveling drum are four magnet-operated switches, only two of which can be seen in this photograph, the other two being on opposite sides of the drum. These switches are held out of engagement with the cams by means of springs. They have magnets incorporated in the switches, which serve when the magnet is energized to pull the rollers on the switches into such a position that the cams will close the switches. When the car is running at high speed these switches will be open, and the rollers will not engage with the cams. The reason for this is that on account of the speed of the elevator traveling 600 feet there would be excessive hammering of the switch rollers in case they were alllowed to ride on and off of the cams. The upper right hand corner, marked 5, is the chain that drives the Randall signal machine, which is situated on top of this automatic stopping and slow-down machine. The Randall signal machine is shown in photographs Figure 2R2 and Figure 2R1. (R. 927)

THE MASTER: These will be Def. Ex. 1-3

(Testimony of Ray Edward De Camp)

It is rather difficult to get a picture of this Randall machine showing the segments, on account of its construction and its inaccessibility, but we had one sent up to the courtroom, which shows the device as it actually is.

This machine, which is located on top of the automatic slow-down and stopping machine, is driven from it by means of a sprocket and chain. This is a rotating screw which moves a carriage carrying contacts in synchronism with the travel of the elevator. On top of the machine is an up-down switch, which is tripped at the ends of the travel by means of a cam to connect either the up side of brushes in or the down brushes in, whichever position the elevator may be traveling. The segments on the side are for either the up motion of the elevator or on the opposite side for the down motion. Each segment is proportional to the length of the elevator travel for the particular floor. One set of segments is connected directly to relays on the hall signal panel, and these segments are energized on this Randall machine each time a hall push-button is pressed. That would energize all four Randall signal machines in parallel from the same hall push-button.

There is also a set of lantern segments, which serve to light the lanterns in the hall in advance of the elevator travel, to indicate to a passenger who is waiting that this car would approach and stop at his landing. There is also a car flash strip below the signal segment, which is a continuous strip, the strip right here, the third one.

(T. 929)

The third one down on either side is the one, which is connected to brush on this carriage in such a way that when the car reaches about one and a half floors ahead

(Testimony of Ray Edward De Camp)

of the landing in either direction this strip is made alive through the segment, through whichever segment happens to be alive, and energizes a car flash relay, and at the same time energizes the operator's car flash to indicate to the operator that the car is to make a stop.

This machine also carries a set of reset segments which are connected to the reset coils on the hall signal panel, which will be described later, to operate in conjunction with the closing of the hoistway door and the reset relays on the hall signal panel to restore the hall push-buttons to their normal or unenergized position.

There are other segments and contacts on this machine that they use for position indicator lights in the car, to indicate to the operator the position of the car with respect to the hoistway, and there are also some manual strips which enable the operator to reset a signal manually in case the elevator does not travel to the limits in order to trip this switch to one direction or the other. This machine was made by the Randall Control Hydrometric Corporation in this city.

Figure I-5, which was Figure 3, is the hall signal panel. There is one panel which serves all four cars. At the top of this panel are two rows of relays, the top row of which are the relays that are energized directly from the set of up hall push-buttons. These relays are very similar to the sample of which we have that one there.

(T. 931)

The relays that are used have three normally open contacts, and this relay has three normally open contacts also. These are dulplicates of the relays in the Pacific Finance Building.

(Testimony of Ray Edward De Camp)

Referring to the relays, this would correspond to the up hall signal relays, which are marked from 1 to 13, both inclusive, on this Exhibit I-5. Offered in evidence as Defendants' Exhibit J. (T. 931)

Whenever the hall push-button is pressed, this coil is energized, and that (Exhibit J) energizes the magnet which serves to close the three contacts. That closes the switch, three circuits, and there is one of the contacts which operates to set up a holding circuit for the relay, to maintain the relay J in its closed or energized position, even though the hall push-button is released. The second contact on the relay J, which is similar to the relays 1 to 13, both inclusive, on Exhibit I-5, serves to make alive or to connect the conductor to one side of the line to the corresponding segment on all four Randall signal machines. The third contact on this relay J operates to illuminate a flashlight or annunciator light in the car panel, and in the lobby panel, corresponding to the floor at which the switch button has been pressed, to indicate to the operator and also to the starter in the lobby that there is a passenger at that corresponding landing who desires to go up.

Directly below these hall signal relays 1 to 13, both inclusive, on Exhibit I-5, are the hall reset relays for the up travel of the elevator, numbered 14 to 26, both inclusive. We have no relay of this type, but it is a relay which has a normally closed contact shown in the down position. (T. 933)

We have no relay of that type here but we have one in the Pacific Finance installation. In other words, when the relay coil is not energized, the contact shown in the

(Testimony of Ray Edward De Camp)

down position is normally closed, and when the relay coil is energized, the contact is open. That resets this relay; that is, when a down hall button is pushed after the button is released, this relay remains closed until this relay is open. This is referring to the lower set from 14 to 26.

The energization of the coils of relays 14 to 26, both inclusive, on this Figure I-5, is accomplished by segments on the up side of the Randall signal machine, which makes contact at the corresponding floors, and a circuit is then completed by means of the Randall master switch situated in each hoistway, which only closes during the closing motion of the hoistway door. At the top of the bottom half of this panel Exhibit I-5 are shown the down hall signal relays 27 to 39, both inclusive, and the corresponding reset relays 40 to 52, both inclusive. These relays function in a manner similar to those of the up relays which we have described, and which we will describe later more completely by means of diagrams.

Directly below these relays are relays 62, 63, 64 and 65, which have no function, being merely spare relays.

At the bottom left hand corner is relay 53, which is a night bell relay, serving to ring a bell in the hoistway for night operation.

Relay 54 is a car flash relay for elevator number 1, 55 for elevator number 2, 56 for elevator number 3, and this car flash relay is energized from the Randall signal machine at approximately one and a half floors before the car reaches a landing. Relay 54, the car flash relay for the number 1 car, has three normally open contacts, only two of which are used, the third contact being not used. One contact of this relay 54 illuminates the light in the

(Testimony of Ray Edward De Camp)

car panel to indicate to the operator that the car is about to stop at the landing. The second contact of this relay 54, the car flash relay for the number 1 car, serves to make alive through contacts on the main control panel during the up travel of the elevator all of the contacts 2U2, Exhibit I-2, on the primary slow-down drum, Figure 2. This same contact on the car flash relay, No. 54 on Exhibit I-5, serves during the down travel of the elevator to make alive, through a contact on the main control panel, all of the 2D2 contacts on the automatic slow-down and stopping machine, Figure 2. The Randall machine, therefore, through the car flash relay not only selects the floor but also selects the particular car which is to slow down and stop at the floor corresponding to the push-button which has been previously actuated. (R. 935)

Relay 58 on Exhibit I-5 is a hall slow-down relay for number one car, 59 for No. 2 car, 60 for No. 3 car, and 61 for No. 4 car. These relays are energized as long as the elevator operator has his hall stop switch in the car panel in closed position. This relay is used when the operator desires to pass by a hall signal for any reason whatever. In other words, if the car is loaded on No. 1 car, we will say, relay 58 will be dropped out or de-energized by the operator in order that he may pass by hall signals which have been set up without, however, resetting these hall signals. Relays 66 and 67 are relays which are used in connection with the 14-volt generators for the signal power source, which are shown at the rear of the panel.

(Testimony of Ray Edward De Camp)

The knife switch at the bottom, number 71, is used to connect in either one or the other of the signal generators. There is a volt-meter 68, which serves to indicate the signal voltage, which is 14 volts D. C. Field rheostats 69 and 70 serve to regulate the voltage of the signal power source. Figure I-7 shows the Ward-Leonard motor generator set.

It shows the Ward-Leonard motor generator set, of which there is one for each elevator. In the center of the set is the A. C. driving motor, which runs at a constant speed of 1760 revolutions per minute. This motor is ordinarily started in the morning, and kept running until night, or until the elevator is taken out of service. At the right hand end is the exciter, which supplies 230 volt D. C. excitation to the main control panel, the elevator motor, the generator fields, and the brake. At the left is the Ward-Leonard generator, which consists of a separately excited generator for direct current having four main poles and four interpole windings. There are three windings on this generator, one of which is the main or shunt winding, and which is used to excite the generator to build up voltage by means of its rotating armature.

This main field is the one that is used to reverse the direction of the current in the armature by means of reversing the direction of flow of current through the main field of this generator. A second winding on this generator is the dampening winding, which serves to limit the accelerating peak of the elevator motor, and hence to enable the elevator car to be started more smoothly.

(T 937)

(Testimony of Ray Edward De Camp)

A third winding on the generator is the series winding, which is in series with the generator armature, and carries the current which flows from the generator armature. The generator armature is connected directly to the armature of the elevator hoisting motor by means of a main-line contactor, which is closed while the elevator is in motion, and is kept closed for two or three seconds after the elevator has come to a complete stop. In other words, the main connections between the Ward-Leonard generator and the main elevator hoisting motor are never disconnected until it is absolutely sure that the elevator has come to a complete stop, and only then for two or three seconds afterwards.

This circuit between the generator armature and the elevator hoisting motor armature is sometimes called the loop circuit. As the strength of the main field on the Ward-Leonard generator is increased by increasing the current that flows through it, there is a corresponding voltage which is built up by the armature, and which causes a corresponding current to flow through the elevator hoisting motor, and hence will regulate the speed and the acceleration of the elevator hoisting motor. The current from the armature, as we have said before, flows through the series field on the generator.

The use of this series field is to compensate for the variable load in the elevator car. If the car is heavily loaded there will be a correspondingly heavy current drawn from the armature of this Ward-Leonard generator, which will cause the series field to strengthen the field on the Ward-Leonard generator, to produce a higher voltage, to compensate for the heavy load on the car.

(Testimony of Ray Edward De Camp)

This results in tending to keep the speed of the elevator car very nearly constant, no matter whether the load on the car is heavy or is light. (T. 938)

Figure I-6 is the main control panel, of which there is one for each elevator car. The large switch No. 3 in the center of this panel, Exhibit I-6, is the automatic manual transfer switch. When the car is running for automatic operation, the switch is in the up position, or as indicated on the automatic side. When the operator has his manual switch on the manual position, the switch is on the down side, which is marked manual position. This switch is operated by remote control by means of magnets on the back of the board, from a manual automatic switch in the car panel, which we will describe later. At the top of the panel. at the right hand side, are two relays numbered 4 and 5, even and odd. These are the relays which are energized by the closing of either a 2U or a 2D switch on the primary slow-down drum of the automatic slow-down and stopping machine, Figure 2. On account of the short length of the cams, these relays are only energized momentarily. Which relay is energized depends on whether the button which is positioned at either an even or an odd floor in the car panel or in the hall is pushed.

Relay 4, when closed, closes its upper contact and energizes the coil of relay No. 1, the even relay. When relay No. 1 is energized, a self-holding circuit is set up, which maintains relay 1 energized during the slow-down period and until the car latch on the drum switch in the car panel is again raised to close the hoistway door. Relay number 5, when it is closed by the primary

(Testimony of Ray Edward De Camp)

slow-down drum, in response to the actuation of either a car-panel button or a hall push-button, will energize the odd floor relay No. 2, in a similar manner to which relay No. 1 was energized. Relay No. 2 is also self-holding and will maintain itself closed until the car latch on the drum switch is again raised. This relay No. 1, or relay No. 2, when set up and when self-holding, is what we will refer to as an even or odd floor slow-down switch combination.

There are three normally open contacts on relay No. 1, and one normally closed contact. One of the contacts, normally open contacts, is used to maintain relay No. 1 closed until the latch is raised, as was indicated previously. A second contact on the relay serves to energize one side of the coil of No. 31, which is the slow-down contactor, through a resistor. However, No. 31 contactor, the slow-down contactor, will not close at this time, on account of the resistance reducing the current through the coil 31 to such a value that contactor 31 will not close its contacts, but will remain in its open position. A third contactor on relay No. 1 serves to energize one side of the coils of relay 6, 7 and 8, the even floor decelerating contactors.

(T. 940)

These contactors, 6, 7, 8, 9, 10, 11, 12, 13 and 14, all operate to insert resistance in the generator field in conjunction with the secondary slow-down drum, in order to reduce the speed of the elevator in diminishing steps, to give a graduated slow-down. Contactor 6 energizes and de-energizes contactor 9. Contactor 7 energizes and de-energizes contactor 10. Contactor 8 energizes and de-energizes contactor 11. In other words, whenever con-

(Testimony of Ray Edward De Camp)

tactor 6 is closed, contactor 9 will close immediately. Whenever contactor 6 is opened, contactor 9 will also open. But, due to a resistance in parallel with the coil of 9, its opening will be delayed by a definite time element, so that 9 will fall out or open its contacts at some later time than 6. 7 and 10 are interlocked in a very similar manner; also 8 and 11; No. 12 and No. 9 are also interlocked in exactly the same manner in which No. 6 and 9 are interlocked; and 13 and 10 in a similar manner; and 14 and 11 in a similar manner.

Let us assume that an even floor slow-down combination has been set, in which case the three contacts on relay No. 1 are closed. We have described the functions of two of the contacts previously. The third contact we have said serves to take one side of each coil 6, 7 and 8 to one side of the line. The relays 6, 7 and 8, assuming that the car is to slow down for an even numbered floor, will then be closed on the other side of the line, through the switches which are mounted around the secondary slow-down drum of the automatic slow-down and stopping machine, Figure 2, marked 3E, or the even set. (T. 941)

If the car is traveling in the up direction, it would be the up switches which are made effective; if in a down direction it would be the down switches which are made effective. At this particular time the cams are so disposed on the secondary slow-down drum that the switches 3E are closed, and hence contactors 6, 7, and 8 will be energized, and will close their contacts, to short out resistance in series with the Ward-Leonard generator field. Contactors 9, 10 and 11 will also close at this time, since they are interlocked with 6, 7 and 8. We

(Testimony of Ray Edward De Camp)

therefore have at this time, say, 12 feet from the floor, when this even floor combination is set up, contactors 6, 7, 8, 9, 10, and 11 energized, and their normally opened contacts all closed.

The back or normally closed contactor on relay 31 is shorting out all the resistance which had been previously in the circuit from relays 6, 7, 8, 9, 10 and 11. As soon as contactor 11 is energized and closes its contact, the resistor which we have previously mentioned in series with the coil of slow-down contactor 31 is shorted out, and contactor 31 hence is completely energized to close its two normally open contacts, and to open its commonly closed contact, which is shown as having a blowout at the bottom of the contactor. This action is preparatory to slowing down the elevator car.

When the back contact of slow-down contactor 31 opens, it inserts all the resistance which is now closed by 6, 7, 8, 9, 10, and 11, the decelerating contactors. As the car travels closer to the floor, the secondary slow-down drum will open in succession the switches 3E on the automatic slow-down and stopping machine, and will drop out one at a time contactors 6, 7 and 8, and hence 9, 10 and 11. In other words, 6 will drop out first to insert some generator resistance, and number 9 will follow; number 7 next; number 10 next; number 8; and finally followed by number 11, to insert resistance in the Ward-Leonard generator field, to reduce the speed of the elevator in diminishing steps.

By the time number 11 is opened and the resistance is inserted, the car will be traveling probably 50 feet per minute, and will be approximately 2 or 3 feet from the

(Testimony of Ray Edward De Camp)

floor. When the back contact on number 10 closes, it sets up a circuit which energizes the coils on the leveling switches marked 4MS on the leveling drum No. 4, Figue 2, of the automatic slow-down and stopping machine. At this time, that is, the time when number 10 back contact is closed, the cams on the leveling switches number 4MS will be energized, and the rollers will be pulled into a position to be actuated by the cams on the leveling drum. When the back contact or normally closed contact on number 11 closes during this decelerating cycle, a circuit is set up to transfer the direction contactors to the leveling drum number 4. (T. 943)

After this time the control of the direction contactors is entirely under the control of the cams on the leveling drum. When the switches on the leveling drum are energized, a circuit is set up through the main control panel to bring in the final step of deceleration, to slow the car down to approximately 25 feet per minute. At this same time, when the car is on its final step of deceleration, the circuit is set up simultaneously to cause the car and hoistway door to open, before the car has reached the floor landing. When the car reaches about three-quarters of an inch from the landing, the switch 4MS will be released by the cam, due to the cam running out from under the roller, and the direction contactor, either number 27 or number 28 on the main control panel, Exhibit I-6, will be opened to kill the Ward-Leonard generator field, and the brake-releasing contactor number 29 on the main control panel will also be opened to set the brake and to stop the car level with the landing.

(Testimony of Ray Edward De Camp)

Referring to the relay of another type, that is the same as number 27 on the main control panel, Exhibit I-6, and is a direction contactor, that is, the same as number 27 on Exhibit I-6. Offered in evidence as Defendants' Exhibit K. (T. 944)

This contactor number 27 is the up direction contactor, and when energized by its coil will close the two normally open contacts to energize the Ward-Leonard field in such a direction that the car will move upward. The normally closed back contact when the coil is de-energized sets up a circuit to kill the residual voltage which may be left in the Ward-Leonard generator to prevent the car from creeping at the landings, due to a certain voltage being generated due to residual magnetism in the generator, causing current to flow through the motor armature, and, hence, causing the car to creep. This residual connection is made in such a way that the generator field is thrown across the generator armature in such a way that the voltage of the generator armature will buck down or kill what is left of the generator field.

If an odd floor combination had been set up, relay number 2 would have been energized instead of relay number 1. This would have operated the odd set of decelerating contactors instead of the even set. Hence, on deceleration contactor 12 would be the first to open, number 9 would follow, number 13, number 10, number 14, and, finally, number 11. It will be noted that contactors 9, 10 and 11 are common to both the odd and the even sets. Relay number 19 in the center of the panel is the relay that strengthens the motor field during

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acceleration, by connecting into the circuit the motor starting field. When the car is running at high speed, relay number 19 is open to permit the car to run with the weakened motor field and reach a speed 600 feet per minute. Contactor number 25 is a potential contactor which is kept closed as long as the operator has his emergency switch in the closed position. This contactor connects in the exciter through the knife switch 51 to the control circuits on the main control panel, Figure I-6. (T. 946)

Numbers 20 and 21 are relays which are operated by the primary slow-down drum whenever a 2U or a 2D switch is closed to initiate the slowing down of the elevator car. Relay 20 serves to energize relay 19 to strengthen the motor field at this time, which would be, of course, when the elevator is approximately 12 feet from the floor at which a stop is to be made. Relay 21 serves to insert some generator field resistance in the Ward-Leonard generator. Relay 22 is a relay which is only used in connection with one-floor runs, that is, in case the car is required to accelerate and decelerate between two consecutive landings. In this case, to start the slow-down of the car 12 feet from the landing would result in a very slow operation of the elevator, and it is desirable to permit the car to accelerate on a one-floor run before decelerating.

Relay 22 takes care of this in a manner which may be shown later. Relay 24 is the reset relay. This relay operates by the closing of the contact on the latch in the car panel, and its back contact de-energizes the coils of either the even or the odd relays number 1 or number 2,

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whichever happens to be set. In other words, after a stop has been made, a latch is again raised to close the door, and relay number 24 will serve to break up or restore the odd or even slow-down switch combination to a normal or unenergized position.

There are a number of other relays in that row, but I don't believe it is necessary to go into the functions of these at this particular time. Relays 34 to 38, both inclusive, are relays which are operated on counter or which have their coils connected in parallel with the generator armature in such a way that whatever voltage is produced by the generator armature will be impressed upon these coils. These are mostly protective relays used to insert or de-energize or cause other relays to function at proper times, depending upon the value of the generator voltage.

Relay 43 is a field protective relay, which has its contacts closed and permits the elevator to run as long as the motor field is kept energized. Relay 41 serves to set up circuits to close the hoistway and the car door whenever the latch on the drum switch in the car panel is raised. Relay 42 serves to open the hoistway and the car doors in connection with a leveling drum when the car is from eight to twelve inches from the landing, to permit the doors to be fully opened by the time the car has come to a complete stop. Relay 44 is a transfer relay which transfers the control of the direction contactors, either number 27 or number 28, to the control of the leveling drum. Number 45 is a circuit-establishing relay which is operated upon the movement of the drum switch

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for the up or down travel of the elevator, to establish various circuits, one of which is to close the contactor 48, which is the large contactor at the bottom of the panel, and which connects the Ward-Leonard generator armature directly to the armature of the elevator hoisting motor. Relay 46 is an up energizing relay, and relay 47 is a down energizing relay, which is actuated upon the movement of the drum switch in the up or down direction, to establish various circuits. (T. 948)

Mechanical interlock 46-I is provided to prevent 46 and 47 being closed simultaneously. 49 is an up interlocking relay which operates in conjunction with 46 and contactor 27, to maintain contactor 27 until it is transferred to the control of the leveling drum. Number 50 is a corresponding down interlocking relay. Number 49-I is a mechanical interlock which prevents simultaneous closing of 49 and 50.

It is to be noted too that there is a mechanical interlock between the up and down direction switch, marked 27-I, and also a mechanical interlock between even and odd relays number 1 and number 2. The night switch number 51 at the bottom of the panel simply serves to make alive the control circuits from the exciter on this main control panel. Figure I-8 shows the car panel in the car, which is positioned in front of the operator, showing its closed position.

Figure I-9 shows this same car panel in its open position, there being four concealed hinges by which the cover or front panel can be rotated to expose the internal connections. A lock is provided, number 29CS, which serves to lock the cover in a closed position.

(Testimony of Ray Edward De Camp)

Referring to Exhibit I-8, there are a series of push-buttons marked 12CS, one for each floor, from floors 2 to 12, both inclusive. The push-buttons for the main floor, the basement and thirteenth floor, are omitted, since the car usually stops there, and the conductor which would have led to these push buttons is led directly to the switches 2U or 2D on the primary slow-down drum. The latches for these push-buttons are shown in Exhibit I-9, the open view of the car panel. The contacts for the push-buttons are not shown, being back of the panel on which the latches are mounted.

Whenever a push-button is pressed the latch number 26CS will drop into a groove on the push-button stem, and will hold it in its closed position until it is released by a common bar number 25CS. The magnet 24 CS is energized at the thirteenth floor, and at the main floor, by the opening of a hoistway door, to energize the coil 24CS and to lift the bar 25CS to release all of the latches that may have been set. (T. 949)

Number 13CS both in Exhibit I-8 and Exhibit I-9 is the flashlight annunciator, which indicates to the operator that a passenger is waiting at some hall landing to go either up or down, there being two sets of lights, one set for up and one set for down. There is a switch number 7CS which serves to disconnect all the annunciator lights in case this is desirable. The two buttons directly below, number 10CS, are used for resetting the hall signals manually in case the elevator does not make a complete trip.

The button 8CS may also be used to manually reset the car push-buttons by means of the bar 25CS in the

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same manner as the magnet 24CS would be used automatically. Number 9CS are dummy buttons, which have no function except just for ornamental purposes. Number 11CS are the position indicator lights, which indicate to the operator by means of an illuminated dial the floor toward which the elevator is approaching or at which it is stopped. The hall stop button number 3CS, marked "On" and "Off" is used by the operator to pass by the hall signals without resetting them, in case he has a fully loaded car or for some other reason it is desirable to pass by the hall signals.

The button 14CS is marked "Car button non-stop," and serves to disconnect*ed* the feed to all of the car buttons number 12CS in the condition that the operator desires to pass by a floor for which a car button had been pressed without having to trip manually all of the buttons which may be in. The emergency switch number 2CS is used to energize the potential contactor 25 on the main control panel, and is kept closed by the operator as long as the car is in service. The car flashlight 15CS is illuminated in conjunction with the Randall signal machine and the hall signal panel about one and a half floors before reaching a floor at which a hall signal has been set up. (T. 951)

Directly below is the stop switch or stop button number 16CS, which serves to interrupt the current to the direction contactors to make a stop at any point in the hatchway. Number 18CS is a door trip, which is only used by the operator in case of electric power failure to open the doors by means of this door trip.

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Number 5CS is the latch on the drum switch, which serves to lock the drum switch in its central or neutral position, and which also carries a contact, not shown very clearly but marked 6-CS in the open view on Exhibit I-9. When this latch 5CS is raised, it closes contact 6CS. This closing of the contact sets up circuits to close the car and hoistway door, and serves to trip out whichever slow-down switch combination, either even or odd, had been previously set up to slow down and stop the car at the landing. The drum switch can be moved to the right for the up motion of the elevator and to the left for the down motion. It is a drum type switch, and has three points of speed control for the manual operation, but on the automatic operation it is only necessary to contact the first point, either right or left, to accelerate the elevator automatically to high speed. Number 21CS is a pilot light which indicates to the operator that the power is on the elevator, and that he is in a position to put the car in service. Number 1CS is the power switch energizes the starter for the Ward-Leonard motor generator set, bringing it up to speed and supplying the circuits for the control of the automatic slow-down stopping machine on the main control panel and the elevator motor.

Number 20CS is a door interlocked bypass which is usually covered by means of glass cover and is only used in case the door interlock is out of commission for some emergency operation.

Number 4CS is an automatic manual switch which is used by the operator to convert the elevator to an automatic stopping elevator or to a three-speed manually con-

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trolled Ward-Leonard elevator. This switch in the upper position would be on the automatic, and when it is on the automatic the number 3 switch on the main control panel would be energized, and all circuits would be completed to enable the car to function on the automatic slow-down and stopping. When the switch is on the manual position it operates an air valve number 28CS mechanically, which serves to lock the car doors open out of the way.

Number 22CS is the car light switch for the illumination of the inside of the car.

Number 23CS is a fast-slow switch, which is provided in order that the operator may have a slow running speed, approximately 300 feet per minute, on the automatic operation. Ordinarily this fast-slow switch is kept on the fast position. I believe that covers the general description of the photographs of the apparatus that is used in the Pacific Finance Building. (T. 953)

I can give a synopsis of the operation of the Pacific Finance Building elevators. I am reading from a synopsis of the operation covering what we intend to do while making a roundtrip of the elevator. I wrote it.

A passenger enters the car from the lobby of the main floor and requests the operator to stop at the seventh floor. The operator presses to a locking position the seventh floor button 12CS in the car. This energizes the contact 2U-1 and 2D-1 of the seventh floor cam-operated switches 2U and 2D on the primary slow-down drum number 2, Figure 2, of the automatic slow-down and stopping machine.

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SECOND OPERATION: The operator starts the car in the up direction. The operator raises the latch number 5CS of the drum switch number 19CS. This unlatches the drum switch mechanically. This closes the car and hoistway doors. The operator moves the handle of the drum switch number 19CS to the up position. This energizes the up circuit energizing relay number 46 on the main control panel. This energizes the main line contactor number 48, and motor full field contactor number 19 on the main control panel. This energizes the slow speed control contactor number 18 and high speed control contactor number 30 on the main control panel, Exhibit I-6.

This energizes the up direction contactor number 27 and brake-releasing contactor number 29 on the main control panel, Exhibit I-6, releasing the brake and causing the car to start upward.

This de-energizes the reset relay number 24 on the main control panel, Exhibit I-6, allowing a signal to be received when the car is running. (T. 955)

The operator releases the handle of the drum switch number 19CS, which is returned to the neutral position by the centering spring number 27CS.

THIRD OPERATION: The car accelerates automatically to full speed. The smooth-start relays number 16 and number 39 on the main control panel, Exhibit I-6, close in sequence. The elevator motor field is weakened and the car runs at full speed.

FOURTH OPERATION: The car slows down at the seventh floor in response to the seventh floor car button which had been locked in. The up seventh floor cam-

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operated switch 2U on the primary slow-down drum number 2, Figure 2—closes about 12 feet from the seventh floor to cause an odd floor slow-down switch combination set-up. The generator field is weakened slightly and the motor field strengthened to decelerate the car.

The odd set of decelerating contactors numbers 12, 13 and 14, and the auxiliary decelerating contactors numbers 9, 10 and10 on the main control panel, Exhibit I-6, are energized to prepare for deceleration. The slow-down contactor number 31 on the main control panel is energized. The car decelerates by the secondary slow down drum number 3, Exhibit I-2, opening in sequence the odd set of decelerating contactors numbers 12, 13 and 14 on the main control panel, Exhibit I-6, which in turn opens the auxiliary decelerating contactors numbers 9, 10 and 11.

The final step of deceleration takes place by the transfer of the connections to the leveling drum.

The car and hoistway doors open automatically as the car approaches the landing. The direction and brake-releasing contactors numbers 27 and 29 on the main control panel, Exhibit I-6, are opened by the leveling drum, and the brake applies when the car is about 3/4 inch from the seventh floor landing and the car stops automatically level with the seventh floor and the passenger steps out. Two or three seconds later the main line contactor number 48 opens. (T. 957.)

OPERATION NO. 5: The operator re-starts the car in the up direction. The operator raises the latch number 5CS, and this unlatches the drum switch number 19CS and closes the car and hoistway doors, and restores

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the odd floor slow-down switch combination set-up to normal. The operator moves the handle of the drum switch number 19CS to the up position, the up energizing relay number 46 is closed, the main line contactor number 48 and motor full field contactor number 19 energized, the up direction contactor number 27 and up interlocking relay number 49, and brake-releasing contactor number 29 are closed, releasing the brake and causing the car to start upward and the reset relay number 24 to be de-energized. The operator may now release the handle of the drum switch number 19CS, which returns to the neutral position. The car now accelerates automatically to full speed, as previously outlined.

OPERATION NO. 6: The car slows down automatically at the 13th or top landing. The slow-down limit drum on top of the elevator car starts to insert resistance in the field of the Ward-Leonard generator at 18 feet from the top landing as an additional safety measure. The top landing is an odd floor and an odd floor slow-down switch combination is established to slow down and stop the car, as in Operation No. 4, since the 13th floor push-button signal is substituted by a permanent connection. The Randall signal up-down switch on top of the Randall machine is tripped mechanically to the down position shortly before the car reaches the top floor.

When the hoistway door opens, a circuit is set up to trip out, by means of a magnet number 24CS in the car panel, all the push-buttons number 12CS, which had been locked in for the up trip. The car stops substantially level with the top landing as the direction con-

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tactor number 27 and brake-releasing contactor number 29 open when the car is about 3/4 inch from the landing, to kill the generator field circuit and apply the brake.

A waiting passenger at the seventh floor wishes to go down to the main floor, and he pushes the seventh floor down button in the hall momentarily. This energizes the pick-up coil of the seventh floor down hall signal relay number 33 on the hall signal panel, Exhibit I-5. The maintaining coil of the hall signal relay number 33 maintains it closed. This lights the seventh floor down flashlight annunciator light in the car, number 13CS, and the lobby. This makes alive the down seventh floor signal segment on all four Randall signal machines.

(T. 959)

OPERATION NO. 8: A passenger enters the car at the top floor and requests the operator to stop at the sixth floor. The operator presses to a locking position the sixth floor button in the car panel. This energizes contacts 2U1 and 2D1 of the sixth floor cam-operated switches 2U and 2D on the primary slow-down drum number 2, Exhibit I-2.

OPERATION NO. 9: The operator restarts the car in the down direction from the top floor. The operator raises the latch number 5CS as in paragraph 5-A above, to unlatch the drum switch, number 19CS, close the car and hoistway doors, and restore to normal the odd floor slow-down switch combination set up, which causes the stop at the floor. He moves the drum switch number 19CS to the down direction, the down energizing relay number 47 is closed, the main line contactor number 48 and the motor full field contactor number 19 are en-

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ergized, the slow and high speed control contactors number 18 and number 30 are closed, and the down direction contactor number 28 and brake-releasing contactor number 29 are energized, releasing the brake and causing the car to start downward and the reset relay number 24 to be de-energized. The operator may now release the handle of his drum-switch number 19CS, which returns to the neutral position, and the car accelerates automatically to full speed, as previously outlined in paragraphs before.

OPERATION NO. 10: The car slows down automatically at the seventh floor in response to the 7th floor down hall signal, which had been previously pressed. When the No. 1 car in its travel is about two and a half floors from the seventh floor, a red light is lighted in the seventh flood hall in front of the number 1 elevator, which will stop, indicating to the waiting passenger that the car is approaching his landing. When the No. 1 car in its travel reaches about one and a half floors from the seventh floor, the car flash-relay number 54 on the hall signal panel is energized by the Randall signal machine for No. 1 car. This lights a flash number 15CS in the car panel, indicating to the operator that the car is to slow down and stop. This energizes all the down cam-operated switch contacts 2D2 on the primary slow-down drum number 2, Exhibit I-2. When the car reaches about 12 feet from the seventh floor, the cam-operated switch number 2D for the seventh floor on the primary slow-down drum number 2, Exhibit I-2, is closed to cause an odd floor slow-down switch combination to be set up. The generator field is weakened, the motor

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field strengthened to decelerate the car, the odd set of decelerating contactors numbers 12, 13 and 14, the auxiliary decelerating contactors numbers 9, 10 and 11, and the slow-down contactor number 31, are energized. The car continues to decelerate by the secondary slow-down switches number 3-0, Exhibit I-2, on the secondary slow-down drum nmber 3 opening in sequence the odd set of decelerating contactors numbers 12, 13 and 14, which in turn open the auxiliary decelerating contactors numbers 9, 10 and 11. The final step of deceleration takes place by the transfer of the control to the leveling drum, the hoistway and car door open automatically, and the direction contactor number 28 and brake-releasing contactors number 29 open, applying the brake, when the car is about 3/4 inch from the floor, stopping the car substantially level with the seventh floor. (T. 961)

We now come to the eleventh operation. The passenger steps in the car. The operator restarts the car in the down direction. The operator raises the latch number 5CS, which unlatches the drum switch number 19CS mechanically. This also closes the car and hoistway door, and resets the seventh floor down hall signal so no other car will stop until the button is again pressed. This restores the odd floor slow-down switch combination set-up to normal.

The operator moves the drum switch number 19CS to the down position, the down energizing relay number 47 is closed, the main line contactor number 48 and motor full field contactor number 19 are closed, the slow and high speed control contactors numbers 18 and 30 are closed, and the down direction contactor number 28 and

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brake-releasing contactor number 29 are energized, releasing the brake and causing the car to start downward and the reset relay number 24 to be de-energized. The operator may now release his drum switch handle number 19CS, which returns to the neutral position, and the car accelerates automatically until arrested by the slow-down action for the sixth floor.

OPERATION NO. 12: The car slows down and stops at the sixth floor in response to the sixth floor car button number 12CS, which has been latched in. This makes a one floor run from the seventh to the sixth floor. The down sixth floor cam-operated switch 2D on the primary slow-down drum number 2 is closed when the car is at the seventh floor, to cause an even floor slow-down switch combination set-up as soon as the reset contact number 24 is de-energized. The motor field is strengthened. The even set of decelerating contactors numbers 6, 7, and 8, and the auxiliary decelerating contactors numbers 9, 10 and 11 are energized. The slow-down contactor number 31 is energized. The one floor run contactor number 22 shorts out the contacts of fourth step decelerating contactor number 6, to allow the car to accelerate on a one floor run before decelerating. Contactor number 6 having its circuit opened immediately after the car leaves the seventh floor would drop out before the car came up to speed. At a predetermined car speed the one floor run contactor number 22 is opened to allow a normal slow-down to follow. This restults in the highest possible car speed between floors. The even set of decelerating contactors numbers 6, 7 and 8 are dropped out in sequence together with the auxiliary decelerating

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contactors numbers 9, 10 and 11, to decelerate the car by means of the cam-operated switches number 3E on the secondary slow-down drum number 3, Exhibit I-2. The final step of deceleration takes place by the transfer of the connections to the leveling drum, the hoistway and car doors open automatically, the down direction contactor number 28 and brake-releasing contactor number 29 are opened, setting the brake when the car is about 3/4 inches from the sixth-floor landing, and the car stops substantially level with the sixth-floor landing, and the sixth-floor passenger steps out. (T 964)

OPERATION NO. 13: The operator re-starts the car in the down direction by unlatching the drum switch number 19CS on raising the latch, thereby closing the hoistway and car doors and restoring to normal the even floor slow-down switch combination set-up. When he moves the drum switch number 19CS to the down direction, the down energizing relay number 47 is closed, the main line contactor number 48 and motor full field contactor number 19 are closed, the slow and high speed control contactors numbers 18 and 30 are closed automatically, the down direction contactor number 28 and brake-releasing contactor number 29 are energized, thereby exciting the generator field of the Ward-Leonard generator and releasing the brake, thus causing the car to start down ward. The reset relay number 24 is now de-energized to allow the car to receive other slow-down signals. The operator may release the drum switch handle number 19CS, which returns to the neutral position, and the car accelerates automatically to full speed.

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OPERATION NO. 14. The car slows down and stops at the first floor in response to the first-floor car button signal which is substituted by a permanent connection leading through the car non-stop button. The down first-floor cam-operated switch number 2D on the primary slow-down drum number 2 closes about 12 feet from the first floor, to cause an odd-floor slow-down switch combination set-up. The field of the Ward-Leonard generator is weakened slightly, and the motor field strengthened. As the car approaches the first floor some generator field resistance is also inserted by the slow-down switch on top of the car as an additional safety measure. The odd set of decelerating contactors numbers 12, 13 and 14, and the auxiliary decelerating contactors numbers 9, 10 and 11 are energized, the slow-down contactor number 31 is energized, and the car decelerates by the secondary slow-down cam-operated switches 3-0 opening in sequence the odd set of decelerating contactors numbers 12, 13 and 14, and auxiliary decelerating contactors numbers 9, 10 and 11, to give a graduated slow-down. The final step of deceleration takes place by the transfer of the control to the leveling drum, the hoistway and car door open automatically, the car push-buttons number 12CS are reset, the Randall signal machine is tripped to the up position, the down direction contactor number 28 and brake-releasing contactor number 29 open and the brake is applied when the car is about 3/4 inch from the floor, and the car stops substantially level with the main-floor landing. Two or three seconds later the main line contactor number 48,

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slow-down contactor number 31, and motor full field relay number 19, open. The car is now standing at the man floor ready for another round trip. (T 966)

OPERATION NO. 15: If, in making a landing, the car is overloaded, or the speed control is out of adjustment, or for some other reason the car should pass the landing too far to be level, the car will be returned to the landing. Assume that in coming down to the first floor the car drifts past the first-floor landing, the first-floor cam on the leveling drum number 4, Exhibit I-2, closes the up direction contactor number 27, and the brake-releasing contactor number 29, thereby releasing the brake and energizing the field of the Ward-Leonard generator to cause the car to move upward until the up switch roller on bar 4MX runs off the cam. The brake then applies and the car stops substantially level with the first-floor landing.

In paragraph 16 we have several special control features, among which is manual operation and the next-floor stop.

Paragraph 16 corresponds to operation 16. I have only gone to the 15th operation so far. In the 16th operation we have a number of features that are lumped under the 16th. Under special control features we have manual operation, next-floor stop, the fast-slow switch, the car non-stop button, and the hall stop button.

I have prepared diagrams in accordance with the Pacific Finance installation correctly showing the circuits there employed for the performance of the operations that I have described in my testimony to this point. (T. 967)

(Testimony of Ray Edward De Camp)

The diagrams I have furnished counsel for plaintiff do not show those. Those are the detail diagrams. These are in accord with the diagrams 4-I-IX previously furnished counsel. They are exactly the same diagrams, except that I have put in circles the numbers which refer to the photographs, and then used different colored ink, so that we could follow them on the photographs as well as on the diagrams, if it is desirable.

Figure M, marked in the lower right hand corner 400-535F, and also the second sheet 400-535G, are function charts of the main control panel in the Pacific Finance Building, covering the function of every contact on the control panel and also the coils listed just as the relays and contactors are marked in Exhibit I-6.

MR. L. S. LYON: We will offer each one of these separately, and we will offer these two sheets that have just been identified by the witness as Defendants' Exhibit K-1 and K-2.

THE MASTER: Let this be Exhibit L.—L-1 and L-2.

Figure S and Figure CS are contained on the sheet marked 400-535-H. Figure S is a function chart of the hall signal control panel in the Pacific Finance Building, photograph Exhibit I-5, covering the functions of all the coils and contacts shown on that photograph.

That is the one marked 400-535-H. Offered in evidence as Defendants' Exhibit M. (T. 970)

Figure CS on the same sheet shows the functions of all the switches on the drum switch and car panel of the Pacific Finance Building.

Mr. Lane stated that he would save his objections until he could look the thing over.

(Testimony of Ray Edward De Camp)

The next diagram, the Power and Generator Field Circuit Diagram, is marked Figure 10A and Figure 10B.

THE MASTER: That will be defendants' Exhibit N.

The sketch 500-239A, B, C and D are the white ones. These are simplified diagrams of the Pacific Finance Building installation, which were put in as Exhibits before, with the exception that we have added the photograph numbers to the diagrams in order that they may be traced from the photographs as well as the diagrams. These were offered in evidence marked Defendants' Exhibits 0-1, -2, -3 and -4. The witness referring to others, these are Figures 1-B and 8-A, which cover the signal service. On your diagram they are just blueprints. There is additional material on your diagrams which we do not have on this diagram.

Blueprints offered in evidence as Defendants' Exhibits P-1 and P-2. The one marked 1-B is Exhibit P-1, and 8-A is Defendants' Exhibit P-2. The drum switch is Defendants' Exhibit Q. (T. 972)

In describing the operation of the cars from the diagrams, assume that the No. 1 car is at the first floor, with the car and hoistway door open, and the operator in the car. The power switch No. 1CS in the car panel is closed, and the motor generator set is running, with its exciter connected to the control panel through the knife switch No. 51 on the main control panel. The emergency switch number 2CS is closed, which closes both sides of the potential contacts number 25 by energizing its coil on the main control panel. The fast-slow switch number 23-CS is set on the fast position, which permits

(Testimony of Ray Edward De Camp)

the contactor number 30 on the main control panel to respond to the closing of a contact or circuit-establishing relay number 45 on the main control panel. The automatic manual switch number 4CS is closed on the automatic position, which actuates switch number 3 on the main control panel to the automatic position.

The hall stop switch number 3CS is set for on, which closes the hall slow-down relay number 58 of the hall signal panel. All the car push-buttons are in their released position. The signal generator is running, and its 14-volt D. C. circuit is connected to the hall signal panel through knife switch 71 moved to one side or the other, depending on which generator is running. The conditions are, therefore, satisfied for the car to be placed in service by the operator for automatic operation.

(T. 974)

OPERATION NO. 1: A passenger enters the car from the lobby and requests the car to stop at the seventh floor. The operator presses to a locking position the seventh floor button in the car. This energizes directly one side of the seventh floor cam-operated up and down switches 2U and 2D on the primary slow-down drum. When the seventh floor car button is pressed the circuit is traced on Figure B, Exhibit O-2, from one side X of the 230-volt power source through the car non-stop button to the seventh floor button 7 through conductor C7 to one side of the Figure 2U1 and 2D1 contacts on the seventh floor up and down primary slow-down drum cam-operated switches 2U and 2D. Nothing further happens until the car by its movement closes the seventh floor cam-operated switch 2U.

(Testimony of Ray Edward De Camp)

Perhaps before I go further I should explain that these are the simplified diagrams of our construction diagrams, and contain all the circuits that are on the construction diagram, arranged in a manner in which the circuits can be traced in a straight line from one side of the page to the other, as nearly as it is possible to do so,—a straight line diagram. The coils and the contacts are separated physically on the diagram, but the coil numbers and contact numbers will all correspond. That makes it easy to trace the circuits from one side of the line to the other, and does not change the mode of operation at all. By "these" I mean O-1, O-2, O-3 and O-4. (T. 976)

OPERATION NO. 2: The operator now starts the car in the up direction by the following operations: The operator raises the latch 5CS on the drum switch 19CS, which functions as follows:

The drum switch is normally mechanically held against rotation in either direction from the central or off position by means of a mechanical latch which is released by the latch member shown as 5CS in the car panel. Operation of this latch therefore releases the drum switch so that it can be moved either to right or left. The latch also carries a contact, which, when the latch is moved to unlatching position, bridges the uppermost contacts on the drum switch, to energize the door magnet control relay number 41, which closes both the car door and the hoistway door. The circuit is traced on Figure C, Exhibit O-3, from LL-1, through fuse to DU, through latch contact to DT.

(Testimony of Ray Edward De Camp)

This is a circuit which closes the car and hoistway door. From DU, through latch contact to DT, to coil DD of — , No. 41, through register 0-59-05, to 05 and DDA safety circuits to 01, through fuse to LL2, the opposite side of the line. The door magnet control relay 41 closes contact DD and opens contact DDA. Contacts DD set up a circuit through the door cam valve magnet from DU, through contact MDA the back contact 45, through resistor to MM1, and through contact DD on 41, through interlocks on the door cam valve magnet itself, through the coil of the close-door cam valve magnet to VL, through fuse to B, through contact p2 of the potential contactor, to LL2, the opposite side of the line. The door cam valve magnet is hence energized and operates the air valves and door cam to close the car and hoistway doors. The operator may then move the handle of the drum switch to the up position. (T. 977)

The 0-3 is the same as Exhibit 4-III, except that we have added these numbers in the circles. We have made up Figure 6-A, Exhibit Q, to show the drum switch in a little better manner than it is shown in this diagram.

Exhibit Q at the top represents the handle of the drum, and adjacent to it is the latch, and you can imagine the handle and the latch as being squeezed together to close the contact making connection between DU and DT. Then assume that the handle may be moved to one side or the other and these contacts DT, 1-D, and 3, DU, 1U and 2, being stationary, the drum segments will move on and off of the contacts, depending on the movement of the handle.

(Testimony of Ray Edward De Camp)

This is where the starting circuits close. Move the handle to the left and this segment will make contact on 1U. We have not started the car. All we have done so far is to squeeze the latch. That closes the circuits DU and DT. That is all that happens at that particular time. The operator may then move the handle of the drum switch to the up position. That is to the right in figure Exhibit I-8, and happens to be the left in Exhibit Q. This operation completes a circuit to energize up-circuit-energizing relay 46 on the main control panel, and circuit-establishing relay 45.

THE MASTER: This is the up side here?

Yes.

THE MASTER: And this is the down, 47 is the down?

47 is down. They are up and down energizing relays; and 46 is the circuit-establishing relay.

THE MASTER: That is, this operates 45 and 47?

Yes, that is correct. We will describe that circuit. This circuit extends from one side LL-1 of the power supply through conductor DU to the drum switch, conductor 1U, the coil of up-circuit-energizing relay 46, conductor 3, the coil of circuit-establishing relay 45, conductor N, a resistor which is normally excluded from the circuit by contact CR-1 of non-plugging relay 35, and thence through the safety devices to the other side LL2 of the source of supply.

The resistor in this circuit is used to prevent sudden reversal of the car when operating under manual control, the resistor being of such value as will permit the coils of numbers 45 and 46 to hold their contacts in circuit-

(Testimony of Ray Edward De Camp)

closing position, but will not permit these coils to pick up their contacts while the resistor is in circuit. The contact CR1 is open whenever the generator voltage is above a predetermined value, that is, while the car is operating above a predetermined speed. The circuit-establishing relay number 45, when energized, closes a circuit to energize the main line contactor 48, motor full field contactor 19, and residual killing contactor 26. 48 closes the circuit through the generator. It connects the Ward-Leonard generator to the elevator motor armature. This circuit extends on Exhibit 0-3 from LL1 through conductor DU, contacts MO1, operated by relay 45.

(T. 980)

Those circuits can be traced in the construction diagram by following through the same letters and symbols, can be traced through the construction diagrams, although it takes considerably longer to do that.

This circuit extends from LL1 through conductor DU, contacts MD1 operated by relay 45, the coil of relay 26, one branch extending through the coil of main line contactor 48 and through a normally closed contact DS operated by door sequence relay 40 to the other side LL2 of the source of supply, while another branch extends through the coil of motor full field contactor 19 through a contact on motor field weakening control relay 37 to line LL2. Contactor 26 closes contacts 5, 1F and opens contact 5A.

The coil is shown there. Contact 5A is here. Another contact 5 is there, and 1F contact is there.

As to whether I explained to the Master that on this diagram where we have a coil and numbers above it,

(Testimony of Ray Edward De Camp)

those were contacts on that coil that are normally open unless the coil is energized. The bottom letters represent the contact that is closed when the coil is not energized. In general that is true.

Contactor 48 closes contact M and opens contact MA. Contactor 19 closes contact 2F. Contact 5 is for manual operation only and is used to increase the length of time required for the generator field to die down when the drum switch 19CS is moved back to the off position. This may be disregarded in this description. Contact 1F operates in Figure 10A to exclude some resistance from the motor field circuit to thereby strengthen the motor field. I may say that this Exhibit 10, Figure 10A, is an enlargement of these crowded circuits here.; that is the circuits C. D. and E on Exhibit O-3.

Contact M closes what is known as the loop circuit between the armature of the elevator motor and the armature of the Ward-Leonard generator so that current generated by the generator may now pass directly to the armature of the elevator motor. An additional interlocking contact M is operated by main line contactor 48, to insure that the generator field cannot be energized unless the loop circuit between the elevator motor armature and the generator armature is closed. That is shown in Exhibit O-3 by mapping Section C3G. Contact 2F operated by contactor 19 connects the motor starting field to the source of power to produce in combination with the motor standing field a strong motor field excitation to assist in accelerating the motor. Contact MA operated by main line contactor 48 is opened to disconnect the emergency dynamic brake connection around the armature of the ele-

(Testimony of Ray Edward De Camp)

vator motor. Contact 5A operated by residual killing contactor 26 is opened to break the circuit from the generator armature to the generator main field, which circuit is later described as the residual killing circuit.

When circuit-establishing relay 45 was energized it closed its contact MD3 to energize the slow speed control contactor 18 and the high speed control contactor 30, provided the automatic switch 3 on the main control panel is closed to give automatic operation. This circuit may be traced in Figure C from LL1 through conductor DU, contact MD3, conductor 2, the coil of slow speed control contactor 18, resistor SO, conductor O5 to line conductor LL2. A parallel branch circuit is also established through contact MD3, conductor 3, the coil of high speed control contactor 30, manually operated fast-slow speed switch 23CS in the car panel and through conductor O5 to line conductor LL2. Contactors 18 and 30 when erergized respectively exclude sections of resistance in circuit with the main generator field winding to cause the car to accelerate. It will be observed that these contactors 18 and 30 operate as soon as the drum switch is moved when the car is operating as an automotic car. On manual operation, contactors 18 and 30 are respectively energized successively when the drum switch is moved to its second and third positions, to thereby give the operator the choice of speeds at which the car may be operated. (T. 983)

Up direction energizing relay 46 when energized completes a circuit for energizing up direction contactor 27, up direction interlocking relay 49, and brake releasing contactor 29, which circuit extends from one side LL1 of the source of power through conductor DU, gate switch

(Testimony of Ray Edward De Camp)

and door switches, closed when the car door and the hoistway doors are all in closed position, a normally closed contact LVA on leveling switch connecting relay 44, contact members UO1 operated by relay 46, an up limit switch, the coil of up direction contactor 27, the coil of up direction interlocking relay 49, the coil of brake-releasing contactor 29, interlock M on relay 45, previously described, contact members FPR on field protective relay 43, which is closed as long as the field is on the motor, normally closed contacts on a switch operated by the elevator governor, contacts AM3 and 3R, both of which are closed while the generator driving motor is running, normally closed contacts of a compensating cable switch closed except when the compensating cable is in abnormal condition and normally closed contacts of an emergency stop car button 16CS to line conductor LL2. Contact UT1 acts to hold the up direction circuit energizing relay 46 energized independent of the contact on the drum switch 19CS so that—that is the contact on this coil UT1—so that the drum switch may now be returned to the central or off position, it being observed that a circuit from line LL1 through contact UT1 leads to conductor 1U which was used to originally energize relay 46. This contact also maintains the circuit-establishing relay 45 energized even though the drum switch is returned to central position. Contact UT2, the coil of which is here, energizes one side of the up switches 3-E and 3-O on the secondary slow-down drum, Exhibit I-2, to permit these switches to be effective when the car is traveling up. Contact UT2 can be mapped on D-1C.

(Testimony of Ray Edward De Camp)

Contact UTA opens the circuit to the coil of reset relay 24 to prevent this coil from causing resetting of signals, that being the coil there, and the contact UTA, except when the car is stopped, thus allowing slow-down signals to be received while the car is in motion. In other words, as soon as the car is in motion this contact opens and de-energizes relay RCA 24. (T. 985)

Contact UTA opens to allow the reset relay RCA 24 to be de-energized so that a signal can be received while the car is in motion.

Contacts 1 and 3 on up direction contactor 27 complete the circuit to permit current to flow in one direction through the generator main field. This circuit extends in Figure 10A, Exhibit N, from line conductor LL1 through conductor DU, resistors indicated above the reference characters V30, V29, V28, V27, V26, etc., contactor Vi3, normally closed contact members STA of generator field weakening contactor 21 and normally closed contacts SDA on slow-down contactor 31, through a resistor directly under contact GFX, contact 1 on up direction contactor 27, conductor F6, normally closed contact LFA, conductor FR, a coil bearing the legend Reactor, conductor FF1, main generator field indicated by the legand "Shunt field," conductor FF2, contact LFB, contact S3, now closed since high speed control contactor 30 is now energized, conductor F8, contact 3 on up direction contactor 27, conductor U15, conductor VL, short-circuiting limit switch and drum resistor, to line conductor LL2. Current supplied to the main generator field winding in this direction, that is, traveling downwardly in Figure 10A, Exhibit N, causes the generator armature, which is rotated

(Testimony of Ray Edward De Camp)

by the driving motor, to generate current and to supply the same to the elevator motor armature in such direction as will cause the car to start upwardly.

When current is supplied to the generator main field winding there is a slight delay between the time such current is supplied and the time the field of the generator builds up sufficiently to supply current to the elevator motor armature to operate the car at the speed corresponding to the value of the voltage supplied to the field winding, so that the current supplied to the motor is graually increased as the field of the generator builds up.

While it would be possible to supply full line voltage to the main generator field instantly upon starting and depend upon the natural retardation of the building up of the generator field to produce a smooth, gentle start for the elevator, we have added additional devices for retarding the building up of the field, in our smooth start relays 16 and 39. (T. 987)

The operating coil for relay 16 is connected in series with the brake coil, and has in circuit therewith resistances which tend to retard the energization of this coil, so that the resistor above the reference character V28 remains in circuit with the generator field for a short time after the direction contactor 27 closes the circuit to the field.

The other smooth-start relay 39 has its operating coil connected across the terminals of the generator armature and is arranged to operate its contacts only after the generator voltage has built up to a predetermined value. In this way the elevator is started very gently and is accelerated to full speed with a very smooth operation. It will be observed by referring to Figure 10A, Exhibit

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N, that resistors V30, V29, V27, and V26 will all be excluded from the field winding circuit at the time the up direction contactor 27 is operated.

THE MASTER: This broken line means resistance, does it?

Yes, that means resistance.

THE MASTER: This resistance is cut out by contactor 39?

Yes, sir. As soon as the elevator reaches a certain speed, low speed, the contact will close and short out some distance to allow it to accelerate at a higher speed.

THE MASTER: And the same thing with 16?

Yes, the same thing with 16.

When it decelerates, the same contactors do not cut the resistance back in. They remain closed until the car has come to practically a full stop. V30 being short-circuited by the first point on the governor switch, V29 being short-circuited by the second point on the governor switch, V27 being short-circuited by slow speed control relay 18, and V26 being short-circuited by the contacts of high speed control contactor 30.

It is characteristic of the variable voltage drive that the speed to which the elevator motor will accelerate depends upon the value of current or voltage supplied to the main shunt field winding of the generator, that is, for any selected value of current supplied to the field winding the elevator motor will accelerate to and operate at a predetermined speed. However, if the load upon the elevator car is increased by passengers boarding the car, or is decreased by passengers leaving the car, the elevator motor has different conditions of load to take care of.

(Testimony of Ray Edward De Camp)

For example, the elevator car, as has previously been described, is counterbalanced by the counterweights for the full dead weight of the car plus about 40% of the full load expected to be placed upon the car. That is, if the car were loaded to 40% of its capacity, the counterweights would just balance the weight of the car and its load, so that the motor would have practically no work to do in order to lift or lower the car under these conditions. (T. 989)

On the other hand, if the load on the car is less than 40% of its capacity, the counterweights tend to move the car upwardly against the action of gravity, and under these conditions the motor would act as a brake rather than as a means for driving the car upwardly. On the other hand, to lower such a light load means that the motor must pull the counterweights upwardly against the action of gravity.

If sufficient load were placed in the car to exceed 40% of its capacity, the overbalanced load would have to be pulled upwardly by the motor, that is, the motor would have to supply power to the machine in order to lift this overbalanced load. In a like manner, if the car is heavily loaded and is to go down, the motor must act as a brake to retard the action of gravity upon this overbalanced load.

These variable conditions of loading affect the speed of the motor. That is, when the motor is doing work, as when lifting a heavy load or lowering a light load, the speed of the motor will tend to drop or decrease. On the other hand, when the work required of the motor is light, that is, when the motor is lifting a light load or lowering

(Testimony of Ray Edward De Camp)

a heavy load, there is a tendency for the motor to speed up.

To counteract the effects of the load, tending to change the speed of the motor, the series field winding on the generator passes whatever current is drawn by the load on the motor at any given time through the field of the generator to supply voltage to the elevator motor in excess of that occasioned by the predetermined value of voltage supplied to the main field winding. On the other hand, when the load is light or the motor is acting as a brake, the series field produces an effect of bucking down or reducing the voltage output of the generator below the voltage corresponding to the current supplied to the field winding.

Thus the load condition is compensated automatically by the series field, and, regardless of the load condition, the motor is caused to run at a constant speed. This is of great importance when the car is operating at slow speeds, since the point at which the lower steps of deceleration must be initiated to stop the car at any given floor depends upon the speed with which the car is approaching that floor, and if, under all conditions of loading, the speed of the car is constant, it follows that the point at which deceleration must be initiated will also be constant. In other words, if deceleration is initiated at exactly the same point in advance of the floor every time it is desired to stop the car at that floor, the car may readly be brought to a stop at the floor level without overrunning or underrunning this floor level.

The contacts 1B-2B, operated by brake-releasing contactor 29, and the circuit for releasing the brake, are

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shown in Figure 10B, Exhibit N. This circuit extends from LL1, through contacts 1B, and through the brake coil to the other side of the line, releasing the brake.

(T. 991)

Contact UTA on up direction interlocking relay opens the circuit to reset relay coil RCA No. 24. Contact RCA, Fig. B, therefore closes to allow the odd or even slow-down retaining relays to close, when a signal is received from either car or hall button. Contact RCA, Fig. B, are the same as No. 24 that we have previously discussed, that when the car was started, RCA 24 was deenergized. We can now follow the contact of RCA on Fig. B, Exhibit O-2. Contact RCA is found at the right hand side of Exhibit O-2. Therefore contact RCA is closed to allow the odd or even slow-down retaining relays to close when a signal is received from either car or hall button.

The car has started in the up direction and the operator may now release his drum switch 19CS, which returns automatically to the neutral position.

OPERATION NO. 3: The elevator accelerates automatically to full speed by the following means:

The smooth-start relays close in sequence. The acceleration is automatic and the operator has no control over it except on manual contract or by means of the fast-slow switch. In a previous operation, contacts S2-S3 on No. 30 and S1 No. 18 were closed. Coil GFR, Fig. 10B, Exhibit N, will be energized as soon as the brake releases to open the interlocking switch on top of the brake mechanism BS. This switch BS is operated mechanically by the movement of the brake in releasing. Contact GFR will therefore close and short out a step of generator

(Testimony of Ray Edward De Camp)

field resistance, and consequently allow the generator field to build up slowly, starting the car smoothly while the brake is releasing.

Coil GFX, No. 39, the second smooth-start relay, will be energized to close contact GFX as soon as the generator voltage is high enough to permit it to close. Contact GFX cuts out all resistance in the generator field. The generator voltage will increase to a maximum, depending on the time element of the generator field and reactor combination. The car will now reach approximately 70% of full speed.

A relay across the generator armature CR3, No. 37, motor field weakening control relay, operates to open the motor full field contactor 19 on Figure 10A, Exhibit N. The elevator then accelerates to the full speed, 600 feet per minute. The speed will be regulated by the governor contacts shown at the left hand side of Figure 10A, Exhibit N. (T. 993)

OPERATION NO. 4: The car slows down at the seventh floor in response to the seventh floor car button which the operator had pressed in the main floor before the car started. The up seventh floor cam-operated switch 2U on the primary slow-down drum 2 closes by the approach of the car to a point about 12 feet from the seventh floor, to cause an odd-floor slow-down switch combination to be set up. The circuits for this are shown on Figure B, Exhibit O-2.

In a previously described operation the closing of the seventh floor button had energized one side of the seventh floor cam-operatod switch 2U on the primary slow-down drum 2, Exhibit I-2. When this switch is closed by the

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movement of the car, the circuit can be traced on Figure B, Exhibit O-2, from X, through the car non-stop button, through the seventh floor car button, through the cam-operated switch 2U on the primary slow-down drum 2, through the coil HO No. 5 of the odd-floor slow-down relay, through the resistor YUU-YU, through the contact UO2 of the up direction energizing relay 46, which was closed when the operator moved his car switch drum to the up direction, through closed contacts EA, No. 1, and OA, No. 2, to the opposite side of the line Y.

I may say that X and Y are the same circuits as LL1 and LL2 when the automatic manual switch is closed in the automatic position. EA, No. 1, and OA, No. 2, are normally closed contacts on the even and odd floor slow-down retaining relays, which have not yet been energized. The relay HO or odd floor slow-down relay 5, is hence energized, and its contact HO closed.

The closing of contact HO in turn sets up an auxiliary circuit from X, through the reset contact RCA No. 24, which was reclosed when the up direction contactor circuit was made, through the coil of the odd floor slow-down retaining relay 2, the contact HO, through the resistor to Y, the opposite side of the line. Contacts O1-O2-O3-of Relay 3 will close, and contact OA open. The coil of the odd floor slow-down retaining relay 2 will be maintained in by interlocking contact O1. (T. 994)

The circuit for this is traced from X through contact RCA of relay 24, through the coil of relay 2, through contact O1 of the odd floor slow-down retaining relay 2, to Y, the opposite side of the line. This switching arrangement is called the odd floor slow-down switch com-

(Testimony of Ray Edward De Camp)

bination set-up and functions to cause the car to slow down in a manner to be detailed later. This relay will not drop out until the latch on the car switch drum is again raised with the car at rest, at which time contact RCA is opened. We have already described the function of contact O1. When contact OA opens it interrupts the circuits to the odd and even slow-down relay, HO No. 5 and HE No. 4, so that no other slow-down impulse can be received while the car is under control of the existing switch combination.

These contacts open when this slow down combination is set up just to disconnect the switching. They are only energized from the seventh floor button, just the seventh floor, one side of the seventh floor, the 2U switch and 2D switch. The opposite side is carried through a common conductor, which in this case is an odd floor conductor, and also an up conductor. The selection only occurs on one side. This side is closed when the up master switch on the main control closes.

When the drum switch is in the up motion, this side conductor is made alive, and the floor is selected on the opposite side. These are the contacts on the drum, the primary slow-down drum. Once these are closed, then this sequence of operation is carried through, either an odd or an even combination. (T. 996)

We have already described the function of contact O-1. When contact OA opens it interrupts the circuits to the odd-and even slow-down relay, HO No. 5 and HE No. 4, so that no other slow-down impulse can be received while the car is under control of the existing switch combination.

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We have described the function of the contact O1 on relay 2. This relay has three normally open contacts and one normally closed contact. When contact O2 closes, it closes a circuit which can be traced on Figure C from LL1 through the potential contact 25 and fuse to DU, through contact MR of relay 15, which was closed when the brake was released, through contact O2, through coil of generator field weakening contactor 21 on the main control panel, coil of the damping control relay 20, on the main control panel, to O5, and safety circuits, and to LL2, the opposite side of the line. Contacts DPA, operated by relay 20 and STA operated by contactor 21, will open and contact DP on relay 20 closed. Contact DP of the damping control relay 20 sets up anxiliary circuit on Fig. C, Exhibit O-3, to energize the coil of the motor full field contactor 19 by by-passing the field weakening control relay contact CR3 No. 37. Contact DPA opens the short-circuit around the damping field to allow the damping field to reduce the time element of the main generator field for automatic slow-down. Contact STA on relay 21, Fig. 10A, Exhibit N, will open to insert a small amount of generator field resistance in the generator field and thus reduce the speed of the elevator. Therefore, when we have this slow-down switch combination set up, the speed of the elevator is also decreased by a slight amount. (T. 997)

The odd floor slow-down switch combination set-up also acts by means of contact O3 on relay 2, the third contact on this relay to energize the odd set of decelerating contactors 12, 13 and 14 on the main control panel, and the auxiliary decelerating contactors 9, 10 and 11,

(Testimony of Ray Edward De Camp)

to prepare for deceleration. The circuits for this can be traced on Fig. D, Exhibit O-4.

Contact UT2, which can be mapped as DIC, was closed when the up direction interlocking relay 49 was energized at the time the car was started upward. Contact DT2, No. 50, will of course be open when the car is going up. The cams 3C on the secondary slow-down drum 3, Exhibit I-2, are so disposed in relation to the switches that the switches are all closed when the car is 12 feet from the floor. Contact O3 therefore will complete the circuits from X on Fig. D through the odd slow-down switches 3-O on the secondary slow-down drum 3, marked OD4, OD3, OD2, Fig. D, Exhibit O-4, to the coils 401-402, 301-302, 201-202, the odd floor decelerating contactors 12, 13 and 14, through contact O3, to Y, the opposite side of the line.

Contacts 401, 301, 201, on contactors 12, 13 and 14 operate to close the circuits to coils of the auxiliary decelerating contactors 9, 10 and 11, which also short out generator field resistance. These contacts may be mapped as D1D on Exhibit O-4.

I should be understood in explanation that this shorting out of resistance is preparatory to reinserting this resistance later step by step for deceleration. Contact SDA on relay 31 in the meantime has remained closed, and bridges the contacts of contactors 6 to 14.

THE MASTER: Go over that again, will you, the shorting out of the resistance? You say the resistance is shorted out?

A Yes; this contact SDA at this time—

THE MASTER: That is made by 31?

(Testimony of Ray Edward De Camp)

A Yes; which is the back contact of 31, is still closed at this time, when the car is 12 feet from the floor, and as soon as the even floor combination is set up, contacts 12, 13 and 14, and 9, 10 and 11, will close.

THE MASTER: Yes. That is, not at the same time, but they will close consecutively?

A Yes, to short out the resistance from V25 to FX. At the same time SDA also shorts out the resistance from V25 to FX. The closing of these contacts 401, 301, 201, 4A1, 3A1, 2A1, is preparatory to later dropping out in sequence the contacts to insert resistance step by step to decelerate the car. This contact SDA will be explained later.

THE MASTER: That will be opened?

A This will be opened as soon as 11 operates and shorts out the resistance in series with 31, contact SDA will open.

THE MASTER: That will open?

A Yes; just as soon as the last auxiliary decelerating contact is closed. No matter which way you are going, No. 11 will close to short cut the resistance in series with the coil 31 ,to allow the two upper contacts to close and the lower contact to open.

THE MASTER: When the lower contact is opened, the upper contact is closed?

A Yes.

THE MASTER: And 31 does that?

A That is 31, yes. That is preparatory to later re-inserting this resistance step by step. (T. 1000)

MR. L. S. LYON: We wanted your Honor particularly to see that this leveling and slow-down and the

(Testimony of Ray E. DeCamp)

Ward-Leonard system is not just something that was just added on to the end of the Parker diagram, beyond the functions that Parker shows, but is interpolated, included right in it, as part and parcel of the means we use. In other words, we don't go through Parker's operations and then add this other stuff as auxiliary. This is our system.

MR. LANE: Of course, if we were to do the same thing, your Honor, you would find in the Otis elevator most everything that is here. It is simply getting down to minutia in all micro-drive apparatus, that was in all micro-drive apparatus previous to this Parker invention. It is just an elaboration of all the details of the structures which are common to elevators of this type. (T. 1004)

VOLUME 8.

LOS ANGELES, CALIFORNIA,
THURSDAY, APRIL 11, 1929.

(T. 1007)

RAY E. DE CAMP.

Direct Examination resumed.

I believe yesterday we had started the car from the main floor, and had set up an odd-floor slow-down switch combination about 12 feet from the seventh floor on the upward travel of the elevator. The setting up of this odd-floor slow-down switch combination also energizes the slow-down contactor 31 on the main control panel. Contact 2A1 on the second step auxiliary decelerating contactor 11 was closed in the previous operation. The resistor OO-5-05, Fig. C, Exhibit O-3, is of such a value

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that the slow-down contactor 31 will only close when the resistor is shorted out, but will remain closed even with the resistor in circuit after it has first been closed. The circuit for this on Fig. C, Exhibit O-3, is from LL1, through the potential contact 25, to DU, through contact MR No. 15, through contact O-2, No. 2, through coil contactor 31 to OO-5, through contact 2A1 on contactor 11 to O-5, and through safety devices to the opposite side of the line LL2. When 2A1 on contactor 11 opens later during the decelerating cycle, the slow-down contactor 31 remains energized until any one of relays 15, 1 or 2 opens. Contact SD1 and SD2 on contactor 31 in Fig. D. (T. 1008)

(T. 1008)

will close to prepare for the leveling operation which occurs later, Contact SDA No. 31 in Fig. 10A will open to enable the decelerating contactors to insert resistance step by step to decelerate the car. (T. 1009)

Those are 9, 10, and 11. The others are 12, 13, and 14.

The next step in the slowing down of the car in response to this seventh-floor car button signal is the graduated deceleration of the car by the secondary slow-down drum cams 30, opening in sequence, by means of the odd set up of secondary drum switches 3-O, the odd set of decelerating contactors 12, 13 and 14, which in turn open the auxiliary decelerating contactors 9, 10 and 11.

The switches are so disposed in relation to the cams that the switches drop out in sequence as the car approaches the landing. Therefore, as No. 1 car approaches the seventh-floor landing, the first contactor to be de-

(Testimony of Ray E. DeCamp)

energized will be the odd-floor fourth step decelerating contactor 12. The circuit for this is shown on Fig. D. OD4 will de-energize the coil 401-402, No. 12. This in turn opens the fourth step auxiliary decelerating contactor 9. The dropping out of this contactor is retarded by means of a resistor to delay the opening of the contacts by a pre-determined amount of time. A similar action takes place in opening the odd-floor third step decelerating contactor 13 and its auxiliary contactor, the third step auxiliary decelerating

(T. 1010)

(T. 1010)

contactor 10. When a contact 3A3 on contactor 10 closes, it completes a circuit to the magnet-operated switches 4MS on the leveling drum 4 of the automatic slow-down and stopping machine. CR2 contact on relay 36 closes when the speed of the car is low enough to prevent excessive hammering of the cams on the leveling switch rollers. The rollers of these final leveling switches 4MS are hence pulled into engagement with the leveling cams.

To further decelerate the car another step of deceleration takes place by the secondary slow-down drum opening the odd-floor second step decelerating contactor 14 and its second step auxiliary decelerating contactor 11.

That is done by the switches on the drum marked 3-O as the car approaches the landing.

Those drums open all of these, 12, 13, 14 and 9, 10, and 11.

Contact 2A2 on contactor 11 is an interlocking contact to prevent the damping field being connected prematurely.

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By this time the odd-floor decelerating contactors 12, 13, and 14, and the axiliary decelerating contactors 9, 10, and 11, are all open and enough resistance has been inserted to reduce the car speed to about 50 feet per minute, at which time the car is about two feet from the landing.

The final step in the deceleration takes place by the transfer of the generator field connections to the leveling drum. When the seventh-floor cam 4C on the leveling drum 4, Exhibit 1-2, closes the magnet-operated switch on bar 4MY, the circuit is completed from X on Fig. d, through contact SD1. on contactor (T. 1011)

(T. 1011)

31, to DL, and leveling switch contacts, through the coil of relay 23, indicated as 1RA, through the resistor to 55, through contact SD2 on contactor 31 to Y, the opposite side of the line. This circuit is made when the coils are energized to bring the leveling switch roller into engagement with the leveling cams, and is preparatory to later dropping out coil of relay 23. When the car gets about eight to twelve inches from the landing, the leveling cam runs out from under the switch roller, and the coil of the leveling field contactor control relay 23 is de-energized. Contact MD2 on the circuit-establishing relay 45 has been maintained energized through contact UT1 on relay 49.

These two points have been closed (T. 1012)

MD2 has been closed all this time. The circuit can now be traced on Fig. D from X, through contact SD 1 on contactor 31, to DL, through contact MD2, relay 45, through coils of contactors 32 and 33, the leveling contactors, through contact IRA on relay 23, now closed,

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and contact 2A2 on contactor 11, and 3A3 on contactor 10, and CR2 on relay 36, all closed previously, through contact SD2, contactor 31, to Y, the opposite side of the line.

SD2 is closed at that time, too.

We just closed SD2 twelve feet from the floor. The leveling contactor 32 and 33 will therefore pull in. Contacts LF1 on contactor 32 and LF4 on contactor 33, Exhibit N—LF1 is just below the legend F6. LF4 is just above the legend F8 on Exhibit N. These contacts LF1 and LF4 close the circuit to the damping

(T. 1012)

field. Contact DPA on relay 20 had opened as described in the beginning of the deceleration. Contacts LFB on contactors 33 and LFA on contactor 32 open the circuit to the main generator field and reactor. The damping field has now replaced the main generator field. The damping field is a low resistance few turn field of low inductance for slow speed operation. Contact LF3 on contactor 33 operates to adjust the current through the damping field. Contact LF2 on the contactor 32 operates to adjust the current through the damping field. Contact LF2 on contactor 32 shorts out the limit resistance so that the car will level the same at top and bottom landings. The damping field will limit the car speed to about 25 feet a minute, and is the final step of deceleration by the generator fields. At the same time the circuit to the damping field is made a circuit is set up to open the seventh-floor hoistway and car doors, so that the door will open by the time the car is level with the floor. When the leveling contactors 32 and 33 are energized, a parallel

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circuit is set up to energize the door-opening control relay 42, on Fig. D, Exhibit O-4. Contact DM on relay 42 closes the circuit to the open door cam valve magnet, providing the operator has dropped his latch 5CS. The circuit for this can be traced on Fig. C, Exhibit O-3, from LL1, through potential contact 25, to DU, through contact DM, on relay 42, through resistor, to MM1, through contact DDA, which is now closed when the operator has dropped his latch, through contact CR on relay 34, and through the open door valve magnet to VL, the opposite side of the line. The open door cam valve magnet is therefore energized, and the

(T. 1013)

(T. 1013)

seventh-floor hoistway door and the car door open by air pressure automatically. The opening of the doors does not stop the car during the leveling operation. A parallel circuit is set up to energize the leveling switch connecting relay 44 on the main control panel, the coil of which is in parallel with the leveling contactors 32 and 33, and the door-opening control relay 42. Contact LV on relay 44 closes the circuit to the leveling switches, and contact LVA on relay 44 opens the circuit to the door interlocks. The control of the direction contactor 27 is thereby transferred to the leveling switches, and the doors can be opened without stopping the car while it is leveling.

(T. 1014)

The last step of deceleration takes place by the opening of the direction contactor 27 and brake-releasing contactor 29, thereby killing the generator field and setting the elevator brake when the car is about 3/4 inch from

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the floor to stop the car substantially level with the seventh-floor landing. The circuits for this can now be traced on Fig. D. The circuit to hold the direction contactor 27 is traced, beginning on Fig. C.

Fig. D is again Exhibit O-4.

That sentence should read that a circuit to hold the direction contactor 27 is traced beginning on Fig. C, Exhibit O-3, from LL1, through DU, through No. 3 switch, to X, to be continued on Fig. D, Exhibit O-4, through contact SD1 on contactor 31, through contact LV on relay 44, through the up leveling switch contact to H10, to be continued on Fig. C again, Exhibit O-3,

(T. 1015)

(T. 1015)

through the up limit switch, the up direction contactor 27, up direction interlocking relay 49, brake-releasing contactor 29, through the safety devices, to LL2, the opposite side of the line. The up direction contactors 27 and brake-releasing contactor 29 are therefore maintained in, even though the car and hoistway door opens. When the elevator is about 3/4 of an inch from the seventh-floor landing, the seventh-floor cam runs out from under the leveling switch roller, and the up direction contactor 27, and brake-releasing contactor 29 drop out, the generator field is killed, and the brake applies, and the car stops substantially level with the seventh-floor landing.

After a short time interval, from two to three seconds, the contact MR on relay 15 will open, due to the dying down of the circulating currents in the brake coil. The coil relay 15 was shown on Fig. 10B, Exhibit N, as being in series with the brake coil.

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This opening of contact 15 will open the slow-down contactor 31, and the main line contactor 48 and motor full field contactor 19 will be de-energized.

The car is now stopped at the seventh- floor landing, the car and hoistway doors are open, the position-indicator lights in the car panel indicates the seventh-floor numeral, and the passenger who desired to get off at the seventh floor steps out.

After the passenger has stepped out, the operator re-starts the car in the up direction. (T. 1016)

(T. 1016)

At the time the buttons are pushed by the operator one side of certain of these switches is energized. 2DU and 2U1 contacts are energized.

The selector switches are closed about twelve feet before the car reaches the seventh floor. That is, the switches 2U in this case for the seventh floor were closed twelve feet from the seventh floor.

As to what set-up closes them, there is a short cam on the primary slow-down drum, which only represents about two feet in the hatchway. The distance between any of these two switches corresponds to a floor distance, or approximately 12 feet. (T. 1017)

By these two switches I mean any two insulated rods marked 2R.

As to what set-up of circuits we have just before the car reaches the point twelve feet above or below a floor, the only set-up we have of that is shown on Figure B, Exhibit O-2, through the car non-stop button and through the seventh-floor push-button in the car panel, and to one side, being 2U1 and 2D1 of the cam-operated switches 2U and 2D on the primary slow-down.

(Testimony of Ray E. DeCamp)

These are the up switches we have been discussing.

The Master: When the switch 2U is closed by this cam reaching that point, or when the drum reaches the point where this cam closes the switch 2U, then are all of the successive operations in stopping the car and all the circuits that are set

(T. 1017)

up from that time on set up by contacts? Well, I won't say that, as they are already set up. Are they completed by contacts on the drum 3 or 4?

Witness answered: The circuits are carried from the primary drum to the main control panel, then to the secondary drum, then from the secondary drum to the main control panel, and back to the leveling drum.

(T. 1018)

The last operation in closing those circuits is in this series of contactors on the main control panel.

The impulse that initiates this action is from what we call odd-floor slow-down combination. That is closed. When the cam closes this cam-operated switch, it completes this circuit.

The Master: Where are the circuits that drop out that resistance? Where are those circuits closed? Are they closed by some of the switches on these drums 3 and 4, say on 3?

Witness answered: Those switches are all closed in this case by the odd set of switches on the drum, that is, numbers 12, 13 and 14 are all closed by these switches, on account of the cams being disposel in relation to the drum so that the coils are energized when the car is at that position 12 feet from the seventh floor, at the same

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time the contact 2U is closed on the primary slow-down drum. (T. 1019)

(T. 1019)

When we are for example 3/4 of an inch from the floor, or something like that, the generator field is finally killed and the brake set. That is initiated by a cam that comes from the secondary drum.

These contacts 10 have a back contact. When that contact closes, that energizes the magnet on the leveling drum and sets up the action that transfers the connections to the leveling drum.

The coil on 10 is energized when the car is twelve feet from the floor; that is, when this circuit is closed.

The thing that delays the action during that period while the car is moving from twelve feet to 3/4 of an inch is the cams dropping out of these switches in sequence. The first switch may drop out ten feet from the floor. (T. 1020)

They are all marked 3-O. The second switch may drop six feet from the floor, and the third switch about three feet from the floor.

These switches operate by hitting a cam and closing, and in this case these switches by falling off of the cam and opening they kill the circuits that have been cutting this resistance out.

When the lower contact on 10 closes this opens and that permits the resistance to be cut back into the generator field. When it closes this circuit puts on the brake and kills the motor field and that circuit is closed by 10 to energize the coils on the leveling switch.

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THE MASTER: Then those coils are energized, but the brake isn't put on at that time, is it? (T. 1020)

A. No, not at that time, not until this (T. 1021) roller either rides on or off of the cam.

We will say that happens possibly four feet from the floor; this cam is so disposed that the switch will be closed. Then there will be a circuit set up to hold in the direction contactor *27*.

That is cut out as soon as the car travels to within 3/4 inch of the floor, when the roller runs off the cam and that opens the contactor *27*, and then that stops everything and puts on the brake right then.

Two or three seconds later the main line contactor 48 will open.

That is the circuit that completes the loop circuit between the Ward-Leonard and the generator.

The reason that that action is delayed is that it is a sort of safety precaution to prevent creeping of the car in case something is wrong with the residual killing connection. (T. 1022)

As a matter of fact, when this contact is broken, that is when everything really quits and the brake is then put on.

The opening of these contacts by the contactor 48 is delayed two or three seconds just as a precaution. (T. 1022)

That is controlled by a relay which is in series with the brake coil and when you cut that brake coil circuit and it puts the brake on then it takes two or three seconds for the flow of current through those coils to die out.

As soon as those die out this spring pulls them open, as also does the weight of the armature. (T. 1023)

(Testimony of Ray E. DeCamp)

The hall buttons set up through this Randall machine eventually set up practically the same circuits for stopping after it gets on the main control panel.

When a hall button is pushed it energizes one side of a strip. (T. 1024)

The Master: And then when the contactor that runs on that screw through there reaches that particular segment, it throws the control onto these two drums.

MR. LYON: That is it. That, itself, selects the floor up there in the Randall machine.

It goes through these contacts.

The Randall machine not only selects the floor but also selects the car which will stop.

It has already selected the car before this happens and it also selects which one of these contactors you are going to go through.

The Randall machine does that through the odd or even switches on the hall side of the primary slow-down drum.

(T. 1024)

Those circuits are shown on the hall side by means of the solid conductor. (T. 1025)

After the car has been selected and the floor has been selected on the Randall machine on the car button side the floor is selected by the 2U or 2D switch.

When the Randall machine operates it selects the floor and makes all of the switches alive.

Then the particular switch picks out either the odd or even floor. That is all on the hall side. The selection of the odd or even is on that drum.

(Testimony of Ray E. DeCamp)

That is the only function that that drum has after the Randall machine has done its work.

The only thing left for this drum is to pick out whether it is going to be odd or even, and the same circuits are used. (T. 1026)

MR. LYON: The relay that plaintiff picked out is the one that does not drop out until after the car is stopped. That is the relay that is set up through the up and down contactors 27 and 28.

These two, 27 or 28, and 48, are set up by the operation of the car switch.

48 connects the loop circuit between the Ward-Leonard generator armature and the main line motor armature. In case something goes wrong with the residual killing connection, this main line contactor 48 is opened a little later, to be sure that there is no danger of the car creeping. (T. 1026)

I think now we are starting the car in the up direction after the passenger has stepped out. To do this the operator performs the operation of raising the latch of the drum switch, which unlatches the drum switch mechanically, and which closes the car and hoistway doors in the same manner as was previously described. This raising of the latch switch also restores the odd-floor slowdown switch combination set-up to normal. In other words, No. 2 relay all this time is still held in the closed position by its maintained contact.

In Fig. C, Exhibit O-3, the raising of the latch 5CS closes a circuit from LL1 to DU, through the latch contact, through the coil of the reset relay 24, through contacts DTA on relay 50 and UTA on relay 49, which are

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closed when the car is stopped, through the resistor O-51 to O-5, through the safety devices to LL2, the opposite side of the line. The contact RCA on relay 24, Fig. B, Exhibit O-2, opens to interrupt the circuit to the odd-floor slow-down retaining relay 2, and this relay is de-energized, thus breaking up the odd-floor slow-down switch combination set-up. When the car is again placed in motion, all circuits are normal to receive a slow-down signal.

(T. 1027)

The operator, after unlatching the drum switch 19CS, moves the drum switch to the up position, the up energizing relay 46 is closed, the main line contactor 48 and motor full field contactor 19 are energized, thus causing the car to start upward, and also causing the reset relay 24 to be de-energized, as has been described in the previous operation of starting the car from the main floor. The operator may now release his drum switch 19CS,

(T. 1028)

which returns to neutral position. The car accelerates automatically to full speed, in the same manner as before.

If there are no other slow-down signals, the car slows down and stops automatically at the thirteenth floor landing. At about 18 feet from the thirteenth floor, the mechanical slow-down limit switch drum on top of the car inserts resistance gradually in the generator field. This resistance is shown in Fig. 10A, Exhibit N, at the right-hand side. It is simply a drum switch with a number of fingers, which gradually insert resistance step by step as the car approaches the top landing. This is a safety measure used in addition to the automatic slow-down and stopping machine.

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The thirteenth floor is an odd floor, and an odd-floor slow-down switch combination set-up is established about five to seven feet from the thirteenth floor, in the same manner as it was established in the previous operation at the seventh floor. I may say here that it is established a little later at the limit floors, on account of the additional resistance which is inserted by the drum on top of the car. In this case the thirteenth floor push-button signal is permanently shorted to the X wire, and as the car moves upward the primary slow-down drum 2, Exhibit I-2, closes the thirteenth-floor cam-operated switch 2U, which establishes the odd-floor slow-down switch combination set-up, as was described for the stop at the seventh floor. As the car slows down under the combined effect of the mechanical limit slow-down drum on top of the car and the automatic slow-down and stopping machine in the penthouse, by means of the odd-floor slow-down

(T. 1029)

(T. 1029)

switch combination set-up, the motion of the car trips mechanically the up-down switch on top of the Randall signal machine from the up to the down position. This machine is located above the automatic slow-down and stopping machine, and is driven from it directly by means of sprockets and a chain 5. This is preparatory for the down trip of the car.

When the thirteenth-floor hoistway door opens as the car approaches the top floor, a circuit is set up to trip out, by means of a magnet 24CS in the top of the car panel, all push-buttons 12-CS which had been locked in for the up trip. In this case the seventh-floor button

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would be tripped out by the opening of the door at the top floor. The circuits for this are shown clearly on Figure B at the right-hand side. There is a contact on the thirteenth-floor hoistway door which closes momentarily as the door opens. Contact RCA on relay 24, as we have shown before, is closed when the car is running. The circuit can then be traced from X, through contact RCA, through the button reset magnet coil 24-CS, through the 13th floor momentary door contact, to Y, the opposite side of the line. (T. 1030)

The button reset magnet 24-CS will hence be energized momentarily to raise the common bar 25-CS that connects to all the latches 26-CS to release the latches. The return springs on the push-buttons 12-CS then force the buttons to their normal open position, and the latches are then dropped to their normal position.

(T. 1030)

The car finally stops substantially level with the 13th landing as the direction contactor 27 and brake-releasing contactor 29 are de-energized to kill the generator field and apply the brake when the car is about ¾ of an inch from the top landing. The doors are now open and the car is ready for the down trip, with the car buttons 12-CS in normal open position and the Randall signal machine transferred to the down direction.

The seventh operation. In the meantime assume that a waiting passenger at the 7th floor wishes to go down to the main floor and he presses momentarily the 7th-floor down button in the hall. There is only one 7th-floor down button for all four cars. The first approaching car will slow down in answer to this signal. When the

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7th-floor down button in the hall is pressed it energizes the pick-up coil of the 7th-floor down hall signal relay 33 on the hall signal panel, Exhibit I-5.

The circuit for this can be traced on Fig. 1-B, Exhibit P-1, from L1 of the 14-volt D. C. circuit, through the coil of night bell relay 53, through the 7th-floor down push-button in the hall, through the pick-up coil of the 7th-floor down hall signal relay HR7D, to N., through the fuse, to L2, the opposite side of the 14-volt D. C. circuit. The pickup coil will be energized momentarily and will close this 7th-floor down hall signal relay 33. (T. 1031)

The right-hand contact closes a maintaining circuit, which can be traced on Fig. 1-B, Exhibit P-1, from L1 to W, through contact HR7D No. 33, through the normally closed contact R7D (T. 1031)

of the 7th-floor down hall signal reset relay 46, directly below, through the maintaining coil of relay 33 to N, to L2, the opposite side of the line. Contact HR7D therefore acts to maintain the 7th-floor down hall signal relay 33 energized even with the 7th-floor down hall button released, until this relay is finally opened in a manner to be described later, by the closing of the 7th-floor hoistway door.

The closing of the middle contact of the 7th-floor down hall signal relay 33 closes a low voltage circuit to the flashlight annunciator in all four cars and to the starter's panel in the lobby, lighting a 7th-floor down red lamp, 13-CS, indicating to the car operators and to the elevator starter that there is a passenger waiting at the 7th floor to go down.

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A third contact on the 7th-floor down hall signal relay 33, the left-hand contact, makes alive the down 7th-floor signal segment on all four Randall signal machines on all four cars. This can be traced on Fig. 8A from L1 to W, one side of the 14-volt D. C. circuit, through contact HR7D on relay 33, and to the 7th-floor down segment on all Randall signal machines. Nothing further happens until the car by its movement bridges the contacts, which will be described later. (T. 1032)

We have represented the signal machines for each car in the manner shown on Exhibit P-2, assuming the carriage would move in a vertical direction across the segments and strips. (T. 1032)

EIGHTH OPERATION: Assume also that a passenger enters the car while it is standing at the top floor and requests the operator to stop at the 6th floor. The operator presses to a locking position the 6th-floor button 12-CS in the car panel. This energizes one side of the 6th-floor cam-operated switches 2D on the primary slow-down drum No. 2, Exhibit I-2, in a similar manner as was described on the up operation of the elevator for the seventh floor.

NINTH OPERATION: The operator now starts the car in the down direction. He raises the latch 5-CS to unlatch the drum switch 19-CS, closes the car and hoistway doors, and restores the odd-floor slow-down switch combination setup to normal. He moves the drum switch to the down direction, the down energizing relay 47 on the main control panel is closed, the main line contactor 48 and motor full field contactor 19 are energized, the slow and high speed control contactors 18 and 30 are closed,

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and the down direction contactor 28 and brake-releasing contactor 29 are energized. This excites the generator field and releases the brake to cause the car to move downward, and causes the reset relay 24 to be de-energized. The operator may now release the handle and the drum switch 19-CS returns to neutral position, and the car accelerates automatically to full speed, as was previously outlined. The circuits for this will not be traced, since they are similar to those traced for the starting and accelerating of the car in the up direction. The car is now running full speed in the down direction, carrying a passenger who wishes to get off at the 6th floor. (T. 1033)

(T. 1033)

TENTH OPERATION: The car slows down automatically at the 7th floor in response to the 7th-floor down hall signal which had been set up by a waiting passenger at the 7th floor. As the car moves downward in its travel, at about half way between the 10th and 9th floors a red light is lighted in the 7th floor hall in front of the No. 1 elevator, which will stop. We are assuming that No. 1 car is the first approaching car. This indicates to the waiting passenger that No. 1 car is approaching his landing.

The circuit for this light can be traced on Fig. 8A, Exhibit P-2. When the car is about half way between the 10th and 9th floors, the brushes A on the carriage of the Randall machine bridges the 7th floor down signal segment and the 7th-floor down light segment. Since the 7th-floor down signal segment is now supplied with current from line L1, current will now flow through the down

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lamp at the 7th floor for No. 1 car, through the NS2 contact on relay 58, on the hall signal bell, which is closed because the operator's hall stop switch 3-CS in the car panel is now closed, to conductor N, to L2, the opposite side of the 14-volt D. C. line.

I might say that the brushes on the carriage marked A, B, and C are shown in the closed position, on account of the up-down switch on top of the machine which has been tripped at the top landing to close these particular contacts.

When the car moves to about half way between the 9th and 8th floors, the car flash relay 54 on the hall signal panel for No. 1 car is energized by the Randall signal machine.

The circuits for this are shown on Fig. 8A, Exhibit P-2.

(T. 1034)

(T. 1034)

When the car is about half way between the 9th and 8th floors, brushes B on the carriage of the Randall signal machine connect the down signal segment to both the 7th-floor down light segment and the car flash strip. The 7th-floor down light is thus maintained, even though brushes contact A run off the segments. Also a circuit is set up to energize the No. 1 car flash relay PL1-PL3, No. 54, on the hall signal panel. This circuit is traced from L1 to W, through contact HR7D No. 33, through the brushes B to the car flash strip to the No. 1 car flash relay PL1-PL3, No. 54, through contact NS3 of relay 58, which is now closed, as the operator has his hall stop switch in a closed position, to L2, the opposite side of the line. This relay is therefore energized to close

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its contacts PL1 and PL3. The middle contact is not used on this relay. (T. 1035)

When relay 54 closes, the left-hand contact PL1 closes to light the operator's car flashlight 15-CS in the car panel, indicating to the operator that the car is to slow down in response to an outside signal. This light on manual control would indicate to the operator that he should make the stop manually. (T. 1036)

The right-hand contact PL3 of this relay 54 energizes all of the 2D2 contacts of the down cam-operated switches 2D on the primary slow-down drum 2, Exhibit I-2. This is shown on Fig. B, Exhibit 0-2.

This contact PL3 is on the hall signal panel, relay 54. It is carried from 54. This contact is shown on Fig. B, Exhibit O-2, but its coil is shown in Exhibit P-2. (T. 1036)

The circuit is traced from X through contact PL3 on relay 54, through UOA on relay 46, which is closed when the car is going down, to one side of all the down cam-operated switches 2D on the primary slow-down drum 2, Fig. 2. Nothing further happens until the car by its movement closes the 7th-floor cam-operated switch.

This circuit from contact UOA is connected to the outside of all the 2D switches.

When the car reaches about 12 feet from the 7th floor, the cam-operated switch 2D on the primary slow-down drum 2 is closed to cause an odd-floor slow-down switch combination set up. (T. 1037)

The circuits for this are shown on Fig. B from X, through contact PL3 contact on relay 54, through UOA contact contactor 46, through the 7th-floor down cam-operated switch, through the coil of relay 5, the odd-floor

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slow-down relay, through the resistor YD to YDD, through contact DO2 on contactor 47, which is closed when the car is moving down, through contacts EA on relay 1 and OA on relay 2 in series, to Y, the opposite side of the line. Contact HO on relay 5 then closes, as described in the up trip, to cause an odd-floor slow-down switch combination.

The primary slow-down drum selects the odd or even combination in this case. The odd cams here are connected on one of these drum wires, and the even cams are connected in the other terminal wires.

There are four—an odd floor and an even floor, and an up and down selection on this side of the 2U and 2D

(T. 1037)

cam-operated switches. I might say that this relay PL3, No. 54, is energized at the right time, so that the cam is always in advance of the proper switch to be selected, being one and a half floors in advance of the landing.

(T. 1038)

The odd set of decelerating contactors 12, 13 and 14, the auxiliary decelerating contactors 9, 10 and 11, and the slow-down contactor 31 operate to decelerate the car and stop the car substantially level with the 7th floor, as previously described for the 7th-floor up stop. Brush C, Fig. 8A, Exhibit P-2, of the Randall signal machine serves to maintain the 7th-floor hall light lighted while the car is at the 7th floor, after brushes A and B have run off of the signal segment.

OPERATION 11: The waiting passenger steps in the car, and the operator restarts the car in the down direction as previously described, after closing the 7th-floor door.

(Testimony of Ray E. DeCamp)

The closing of the hoistway door resets the 7th-floor down hall signal to prevent any other car stopping there until the button is again pressed.

The restoration of this signal is shown in Fig. 1-B, Exhibit P-1. When the No. 1 car is at the 7th floor, a contact brush on the Randall signal machine bridges the 7th floor reset segments and the reset strip. The circuit can now be traced from L1 to W, through contact 1NS1 on relay 58, on the hall signal panel, which is closed by the operator's hall stop switch, and through the momentary down contact WR on the Randall master switch to RS,

(T. 1039)

(T. 1039)

which is only closed while the hoistway door is in the closing motion. The circuit is continued through the reset strip to the 7th floor landing reset segment, to coil of relay R7D, the 7th,floor down signal reset relay 46 on the hall signal panel, to N, to L2, the opposite side of the hall signal panel, to N, to L2, the opposite side of the 14-volt D. C. signal circuit. The relay R7D No. 46 is hence energized momentarily to open the maintaining coil of the hall signal relay HR7D No. 33 on the hall signal panel, by means of its contact R7D.

The flashlight annunciator 7th-floor down lights are extinguished, the 7th-floor down hall light No. 1 car is also extinguished, and the feed to all 7th-floor down signal segments on the four Randall signal machines is discconnected.

Raising the latch 5-CS also restores the odd-floor slow-down switch combination to noraml. This operation and the circuits have been traced previously.

(Testimony of Ray E. DeCamp)

The operator moves the drum switch 19-CS to the down position, and the car again starts down.

If another car approached within twelve or fourteen feet of the 7th-floor landing before the doors were closed on the one that stopped there, the second car would also stop in the same manner. (T. 1040)

OPERATION 12: The car slows down and stops at the 6th floor in response to the 6th floor car button which had been latched in by the operator while the car was standing at the top floor. This results in a one-floor run from the 7th to the 6th floor. (T. 1040)

The down 6th-floor cam-operated switch 2D on the primary slow-down drum 2 is closed when the car is at the 7th floor as soon as the reset relay 24 is de-energized, to cause an even-floor slow-down switch combination set-up to be established. This can be readily traced on Fig. B, on Exhibit O-2, being similar to the odd-floor circuits, except that the resulting relay set-up is the even-floor slow-down retaining relay 1, on the main control panel.

The even-floor slow-down switch combination results in strengthening the motor field, as has been similarly outlined under an odd-floor slow-down. The generator field weakening contactor 21 operates its contact STA, but the generator field resistance is shorted out by contact A3X one-floor run relay 22, as will be described. Contact STA will be open, as has been described.

The even set of decelerating contactors 6, 7 and 8, and the auxiliary decelerating contactors 9, 10 and 11 are energized. The slow-down contactor 31 is energized. In this case we have 6, 7, 8, 9, 10 and 11 energized.

(Testimony of Ray E. DeCamp)

That cuts the resistance out. At this particular time they close to short out the resistance, preparatory to later reinserting it step by step. (T. 1041)

The slow-down contactor 31 is energized. The one-floor run relay *22* shorts out the fourth stop decelerating contactor 6 to (T. 1041)
allow the car to accelerate on a one-floor run before decelerating. The circuit for this is shown on Fig. 10A, Exhibit N.

At a predetermined car speed, the one-floor run contactor *22* is opened to allow a normal slow-down to follow. This results in the highest possible speed between floors, the car being allowed to accelerate before being decelerated.

The circuits for this are shown on Fig. C, Exhibit O-3. When the generator voltage is high enough and the resulting car speed is high enough, the one-floor run control relay 38 will open its contact CR4 and hence deenergize the one-floor run relay *22* to remove the short on the generator field resistance. A normal deceleration takes place from this point.

The even set of decelerating contactors 6, 7, 8, are dropped out in sequence, together with the auxiliary decelerating contactors 9, 10 and 11, by means of the switches 3E on the secondary slow-down drum 3, Exhibit I-2, to decelerate the car. The final step of deceleration takes place by the transfer of the control to the leveling drum, the hoistway and car doors open automatically as previously described, the direction contactor 28 and brake-releasing contactor 29 are opened, killing the generator field and applying the brake when the car is about ¾

(Testimony of Ray E. DeCamp)

of an inch from the floor, and the car stops substantially level with the 6th-floor landing. The 6th-floor passenger then steps out. (T. 1042)

OPERATION 13. The operator restarts the car in the down direction in the same manner previously described. (T. 1042)

OPERATION 14: The car slows down and stops at the first floor in response to the first-floor car button signal, which is permanently shorted and can only be opened by the car non-stop button 14-CS in the car panel. The down 1st-floor cam-operated switch 2D on the primary slow-down drum 2, Fig. 2, Exhibit I-2, closes about 12 feet from the first floor to cause an odd-floor slow-down switch combination set up to be established, and the car stops in the same manner described for the 7th-floor stop. The car push-buttons set up during the down trip are reset as at the top floor, and the Randall signal machine is tripped to the up position in a manner similar to that described with the car at the top floor.

OPERATION 15. If, in making a landing, the car is overloaded, the governor speed control is out of adjustment, or for some other reason the car should pass a landing too far to be level, the car will be returned to the landing. (T. 1043)

On the matter of leveling, if the leveling drum passes on past a certain point, one of the rollers either rides on or off and starts the thing up again.

The first floor cam 4-C on the leveling drum 4, Fig. 2, closes the up direction contactor 27 and brake-releasing contactor 29, thereby exciting the generator field and releasing the brake to cause the car to run upward until the up switch roller on the companion switch to the one

(Testimony of Ray E. DeCamp)

mounted on 4MX on the leveling drum 4, Fig. 2, runs off the cam. Contactor 27 drops out, the generator field is killed, and the brake sets, stopping the car substantially level with the landing. (T. 1044)

(T. 1044)

The circuits for this can be traced on Fig. D. When the car runs past the floor in the down direction, a circuit is made from LL1 through contactor 25 to DU to X, through contact SD1 on contactor 31, to DL, through contact LV on relay 44, through the leveling switch to H10, through the up limit switch, through the coil of the up direction contactor 27, through the coil of the up direction interlocking relay 49, through the coil of the brake-releasing contactor 29, through the protective and safety devices, to O1, and LL2, the opposite side of the line. When the leveling switch runs out from under the cam the car stops as described.

OPERATION 16: There are several other features of this form of elevator control which may be described briefly.

Manual Control: By throwing the automatic manual switch 4-CS in the car panel Fig. 6 to the manual position, the automatic manual switch 3 on the main control panel Fig. 4 is thrown to the manual position, and all the circuits are converted to make all connections necessary for a 3-speed Ward-Leonard variable voltage manually-controlled elevator, with a standard Randall signal system. In this case the car door is automatically locked open out of use. This is done by means of an air valve 28-CS, mechanically connected to the automatic-manual switch 4-CS in the car panel, Fig. 6 and 7. (T. 1045)

(Testimony of Ray E. DeCamp)

Another control feature is the next-floor stop button 17-CS in the car switch, Fig. 6. When this is pressed in Fig. 8B the operation is the same as if the car flash relay 54 had been en- (T. 1045)
ergized except that no flash results. The car will slow down and stop at the next approaching floor. This is useful when the car is running and a passenger requests to be let off at the next floor.

Still another control feature is the fast-slow switch, 23-CS, Fig. 6. On automatic operation it is often desirable to run at a reduced speed. When the fast-slow switch 23-CS is thrown to the slow position in the car panel, Fig. 6, the high speed control contactor 30 is locked out and the car will run at about half speed, but with all the other automatic features functioning normally.

An additional control feature is the car non-stop button 14-CS, Fig. 6. If this button is pressed on Fig. B, the feed to the car buttons is disconnected and the car will not stop from a car button signal. The feature saves resetting all of the buttons manually if a mistake is made in pushing the car buttons.

Still another control feature is the operator's hall stop switch 3-CS in Fig. 6. If the car is loaded or for the other reason the operator must pass up hall signals, he may do so by throwing this switch to the off position. The hall light will not light and the car will not slow down, and hall signals will not be reset as the car passes the floors.

The operation of car Nos. 2, 3, and 4 are in all ways similar to that of No. 1, which has been described.

(T. 1046)

(Testimony of Ray E. DeCamp)

(T. 1046)

As to when this equipment in the Pacific Finance Building was developed and from what, the first experimental work was done in 1921 by Mr. Walker, of the Llewellyn Iron Works, and by Mr. Bouton, of the Westinghouse Electric & Manufacturing Company, at the Pacific Mutual Building, in connection with an experimental Ward-Leonard variable voltage installation.

The next experimental work was done at the Union Bank Building, by Mr. Walker, in 1922.

I was there and rode on the cars and observed their operation. (T. 1047)

Nothing further was done. I said that was done in 1922 at the Union Bank Building in Los Angeles. Nothing further was done until 1924 when the idea was conceived of stopping a car automatically from high speed.

Objected to. Sustained.

Motion to strike. (T. 1048)

In July, 1924, a diagram was made up by Mr. Walker, showing an automatic slow-down scheme, by means of using cams in the hatchway, inserting resistance in a Ward-Leonard generator field, and by means of throwing a car switch to the off position.

I have the diagram here which was made up at that time under Mr. Walker's direction.

I worked on the installation at the Pershing Square Building. (T. 1049)

This diagram was tried out under my direction in 1924, and (T. 1049)

we succeeded in automatically stopping a 600-foot elevator car by throwing the car switch to the off position and stopping the car within a distance of 8 to 12 feet

(Testimony of Ray E. DeCamp)

by throwing the car controller off any place between from 12 to 15 feet from the landing.

This work was all done at the Pershing Square Building. The traffic became too heavy in the Pershing Square Building to do any further experimental work, so early in 1925 the equipment was all moved to the Petroleum Securities Building, on elevator No. 4, where the same equipment was tried out in connection with a different size of motor, and the same results were secured.

(T. 1050)

At the Petroleum Securities car we started in April of 1925 to develop a full automatic stopping control, using push-buttons in the car and using the existing Elevator Supplies signal system, which was then installed in the Petroleum Securities Building. This equipment is similar in all ways to the Pacific Finance installation made later.

(T. 1051)

Comparing the installation just referred to to the Pacific Finance equipment, the installation at the Petroleum Securities Building is substantially the same as that installed later at the Pacific Finance Building, with the exception of the signal system, which in that building is an Elevator Supplies signal system, and in the Pacific Finance Building is a Randall system.

The chief difference between the two is that the Randall signal machine is made with a mechanical throw-over or a friction throw-over at the limits of travel instead of having an up-down (T. 1051)

switch on top of the machine. The circuits are very similar in all respects, with the exception of the hall reset circuit on the Elevator Supplies being not controlled by a

(Testimony of Ray E. DeCamp)

single master switch as in the Randall system, but being a series of door switches. (T. 1052)

The Petroleum Secuurities car was put in passenger operation August 4, 1925, on the full automatic operation, this one particular car being operated automatically off the same push-button switch used on the remaining seven cars which were operated manually.

I saw the car about a month ago and it was operating satisfactorily on the automatic stopping control.

I know how it was operating in August, 1925. I also know how it was operating when I saw it a month ago. It was operating the same. (T. 1053)

There were a number of drawings made for that installation, starting with the design of the automatic slow-down stopping machine and ending up with complete wiring diagrams.

I produce those here.

These are the drawings. (T. 1054)

Drawing dated 7/15/24, a description of automatic leveling, offered in evidence.

What I produced a little while ago was a drawing of an experimental layout, in which the car was to be stopped automatically by throwing the car switch to neutral position in a zone preceding the slowing down and stopping zone. (T. 1054)

It is called automatic leveling or automatic slow-down and stopping. (T. 1055)

The drawing was made under Mr. Walker's direction, and I saw it when the drawing was made in July 1924.

This arrangement was embodied in an experimental installation at the Pershing Square Building in Los Angeles.

(Testimony of Ray E. DeCamp)

The purpose of this experiment was to automatically slow-down and stop a high-speed elevator car, that is, a car running say 600 feet per minute, in steps of diminishing resistance to bring the car to a level with the landing.

Exhibit received in evidence as Defendants' Exhibit R. Exception.

By main motor leveling is meant using the main hoisting elevator motor to secure the slow or creeping speeds which are necessary to land a car accurately at the landing. (T. 1056)

As to whether at the time of this experimental work that is indicated in this last Exhibit, that was something known in the art, I would say at that time it was not known in the art. It was developed at the Pershing Square Building at that particular time.

This scheme of automatic slow down and stopping was later incorporated in the Petroleum Securities car and the Pacific Finance car. (T. 1056)

When I say it was not known in the art I mean to my knowledge it was not known.

Referring to the drawings which I produced of the Petroleum Securities job, there are nine drawings, which cover the design of the system used at the Petroleum Securities Building from the period of April 14, 1925, until the final wiring diagram was made on June 18, 1925. (T. 1057)

I made the drawings.

They were made on the dates indicated at the bottom right-hand corner of the sheets.

I have copies of the complete wiring diagrams but not of the mechanical structure.

(Testimony of Ray E. DeCamp)

Five blueprints were handed to counsel for plaintiff. (T. 1058)

Counsel stated that the Ihlder patent number was 710,914 instead of 701,914.

Counsel for plaintiff requested copies of the Coyle and Ihlder patents and stated they were not set up in the Answer.

Counsel stated that they had copies at the office.

Again referring to the drawings of the Petroleum Securities elevator equipped with the automatic stopping, the first drawing, (T. 1058)
which is entitled "Slow down leveling device," dated 4/11/1925, shows an assembly design of the automatic slow-down stopping machine as it was built for the Petroleum Securities car. (T. 1059)

I made this drawing and it is signed "R. E. D.", which are my initials.

It was made April 11, 1925.

The date was applied at the time the drawing was finished.

Offered in evidence as Defendants' Exhibit S-1.

Objection.

Overruled.

Received in evidence.

The second drawing is entitled "Section of Slow-down and Leveling Machine", which I made April 14, 1925.

The date was applied at the time the drawing was completed.

Said drawing offered and received in evidence as Defendants' Exhibit S-2. (T. 1060)

Plaintiff's objections made without repetition.

(Testimony of Ray E. DeCamp)

The next drawing is entitled "Cam-closed Magnet Retired Switch", dated April 29, 1925, and has the Llewellyn number 313-128.

I made this drawing. (T. 1060)

It was finished April 29, 1925, and the date was applied on that day.

Offered and received in evidence as Defendants' Exhibit S-3.

The next drawing covers details on the cam-closed switches for the automatic stopping and slow-down machine, numbered 313-130, and dated April 29, 1925.

Offered and received in evidence as Defendants' Exhibit S-4. (T. 1061)

Stipulated that defendants withdraw the four original drawings S-1 to 4, and substitute a photostat or blueprint of each of them and furnish duplicates for counsel for plaintiff, with the understanding that the originals be made available to plaintiff.

There are three simplified drawings covering the control of this installation at the Petroleum Securities Building, which are numbered sketches 500-214A, 500-214B, and 500-214C, the dates of which are from April 30, 1925, to May 5, 1925.

I made these drawings and they were completed on the dates that appear on the drawings. (T. 1062)

Three drawings offered in evidence as Defendants' Exhibits S-5, S-6, and S-7.

The next drawing is a wiring diagram of the main control panel, the drawing being entitled, "Automatic Stop Elevator, Wiring Diagram," numbered 400-295, which was made June 18, 1925, (T. 1062)

(Testimony of Ray E. DeCamp)

which date was given upon the completion of the drawing.

I made the drawing and it was finished and dated on the date appearing on the drawing.

Offered and received in evidence as Defendants' Exhibit S-8. (T. 1063)

The next drawing covers the general wiring diagram of the installation at the Petroleum Securities, No. 4 car, the diagram being numbered 400-300, and entitled, "Automatic Stop Elevator," and which was dated June 23, 1925.

It was made by me and dated on the day appearing on the drawing.

Offered and received in evidence as Defendants' Exhibit S-9.

I have referred to the fact that the automatic stopping was added to the petroleum Securities No. 4 car after the four cars had been in use in manual operation. As to whether there was any floor selector on these cars during the time they were in manual operation, they all had Elevator Supplies, signal machines on the car, of the type I have described heretofore as compared with the Randall selector. (T. 1064)

(T. 1064)

The function of that selector or signal machine was to illuminate the lanterns in the halls in front of the elevators, to indicate to the waiting passenger that the car was approaching his landing, and also to light an operator's car flash at approximately one and a half or one and three-quarters floors preceding the stop at the landing, to indicate to the operator that he was to make a stop at the landing; and also a third function of the machine was to

(Testimony of Ray E. DeCamp)

reset the hall signals after the car had stopped, when the hoistway door was opened and closed.

After we had installed the automatic stopping in the No. 4 car, the car functioned to stop automatically in response to the hall buttons.

The selector functioned in all ways just like on the manual control. The chief difference was that there was a relay added in parallel with the operator's flash in the car, which established a slow-down combination to slow down and stop the car. I have known of the use of such a form as long as I have been connected with the elevator work, which dates back to when I first came with the Llewellyn Iron Works in 1920. (T. 1066)

I believe Mr. Baruch suggested the idea of using the existing signal system for the purpose of automatically slowing down and stopping an elevator car.

I did not know of it having been done before he designed this particular installation.

(T. 1066)

After we had the car developed to a point where it could be automatically slowed down and stopped, it was a comparatively simple matter to add a relay to the operator's flash, which would set up the slow-down impulse.

(T. 1067)

I fix the date as to when the No. 4 car in the Pteroleum Securities Building was turned over for regular passenger use, equipped with automatic stopping, by the completion of the test which I made on that particular car.

I believe I have the test sheets here.

Witness produced them.

(Testimony of Ray E. DeCamp)

These are the complete test sheets and reports which are dated August 4, 1925, signed by myself, the report being made by myself at that particular time. It refers to the Pan American No. 4 car.

That is the same car sometimes referred to as the Pan Gas Building and the Petroleum Securities Building.

The report offered in evidence as Defendants' Exhibit T, consisted of seven pages.

Objected to as incompetent, irrelevant, and immaterial, and not properly proved.

Overruled.

Exhibit marked Defendants' Exhibit T, and agreed that a photostatic copy might be substituted.

(T. 1070)

As to what caused the difference in the form of selector employed in the Pacific Finance installation as compared with that in the Pan Gas No. 4 car, I would say that the order for the Pacific Finance Building had already been let to the Randall control for their signal apparatus. That is the reason that the Randall control was used in the Pacific Finance Building.

That had been let in April 1925, which was sometime after we got the control in the Securities car in operation, after August 4, 1925.

When the Pacific Finance people were shown the No. 4 car at the Pan Gas installation, they decided to change their order to call for automatic stopping. (T. 1071)

It was my duty to go ahead and design the control equipment for the Pacific Finance job, after I understood that that was what was desired, automatic stopping elevators. (T. 1072)

(Testimony of Ray E. DeCamp)

I received my instructions in October 1925.

During that month we put bills of material in the shop, and we got the drawings completed, and all the designs under way, for converting all the four cars to the automatic stopping type.

I have the bills and drawings showing the work that was done during that month, which I produce. (T. 1073)

The first drawing is a detail drawing of the automatic slow-down and stopping machine marked Type LSM, drawing No. 231-47, dated October 22, 1925.

(T. 1075)

The first drawing is dated October 22, 1925.

(T. 1077)

I drew some of these drawings, and Mr. Lyons name appears on some of them. He is one of the mechanical engineers in our department.

As to what independent recollection I have as to what work was being done October 1925 in reference to the Pacific Finance installation, I would say that all the switches for the automatic slow-down and stopping machine had been ordered, put in the shop, and practically all of the automatic slow-down and stopping machine, the parts, had been ordered, and the bills of material put in the shop. Of course, the motors had been built previously, and the motor generator sets had been built previously.

Motor generator sets had only to do with the ordinary elevator equipment. (T. 1078)

As to what was being done at that time with reference to automatic stopping, bills of material had been put in the shop, and the shop had been instructed to go ahead

(Testimony of Ray E. DeCamp)

as fast as possible to complete the machines and the switches for the automatic slow-down and stopping machines.

As to the push-button equipment, that was the Randall equipment. They were Randall push-buttons which had been ordered in April 1925. The Randall signal machines had been ordered at the same time. (T. 1078)

Those had to do with the ordinary manual control which we operated over there, but we used the same machines.

As to what was being done with reference to the stopping of the cars by push-buttons with that equipment in October 1925, the automatic primary slow-down drum on the automatic slow-down stopping machine has to do with that, and that was put in the shop in October, 1925. (T. 1079)

The bills of material for the switches are dated October 20, 1925. That covers the 2U and 2D switches on the primary slow-down drum, and the secondary slow-down switches. The order is dated October 20, 1925, calling for 50 of those switches. The magnet retire switches, the order is dated October 20, 1925, covering 17 of those for the complete job.

This bill of material covers four of the automatic slow-down and stopping machines, Type LSM, for the new Pacific Finance Building, dated October 30, 1925.

These drawing numbers that are on these bills of material are the drawings that I have just produced. (T. 1080)

These parts that were in progress in the shop pursuant to these orders that I have produced refer to the mechanism in the equipment which enabled the Randall signal

(Testimony of Ray E. DeCamp)

control system to act in conjunction with the slow-down and leveling mechanism to stop the car.

(T. 1081)

This sheet, dated October 27, 1925, the leveling drum is ordered, which is part of the automatic slow-down and stopping machine. There were four of them ordered on this bill. And also on this same bill there were four of what is marked here as master drums ordered, which is what we have called the primary drum on the automatic slow-down and stopping machine; and also on this same bill there are four of the slow-down drums ordered, which we now have called the secondary slow-down drum of the automatic slow-down and stopping machine; and also there were 8 end stands ordered, which complete the framework on the end of the machine, and 4 of the shafts ordered, on which are supported the various drums and the nuts, yokes, rings, and various parts, on this same bill of material, put in the shop at the same time, in order to make four complete automatic slow-down and stopping machines. (T. 1082)

These four automatic slow-down and stopping machines are entirely for the automatic operation, and have nothing whatever to do with the manual control.

None of this machine would be used for manual control —there is nothing whatever—the machine would be done away with entirely. There is no use for a machine such as this on manual control, and these parts that you see on this Exhibit I-2, there were four such machines ordered on this bill of material, which is dated in October, 1925. This primary slow-down drum operating through the Randall signal machines will automatically slow down

(Testimony of Ray E. DeCamp)

and stop the car at the landing in response to the hall push-buttons.

(T. 1083)

I have identified these order numbers M-48-2310 and M-48-2333 as the orders for this particular work.

There are some more sheets.

I have also identified M-48-2312 and order No. M-48-2311.

The witness was asked whether all of these sheets constitute the orders 2311, 2312, 2310, and 2333, whether all eight are the original orders issued in October 1925 for the construction of the mechanism for the Pacific Finance Building to conver the job from manual control to automatic stopping control.

Objected to as leading, suggestive, incompetent, irrelevant, and immaterial.

Objection sustained.

Counsel for Defendants offered the drawings in evidence.

Objected to as incompetent, irrelevant, and immaterial.

Overruled. (T. 1084)

Received in evidence bills of material as Defendants' Exhibit U-1.

Two sheets of the same Defendants' Exhibit U-2.

Three sheets, Defendants' Exhibit U-3.

Two sheets, Defendants' Exhibit U-4.

Construction drawings, Defendants' Exhibit U-5.

Construction Drawings, Defendants' Exhibit U-6.

The same for Defendants' Exhibits U-7 to U-15, inclusive.

(Testimony of Ray E. DeCamp)

(T. 1085)

We may have some other drawings constituting work done on this installation in the Pacific Finance Building prior to November 13, 1925, but I do not have them here.

The machine was completely designed prior to November 13, 1925, pursuant to the orders offered on evidence under (T. 1086) the series Exhibit U.

About 800 hours of shop work had been done prior to that time and I can produce the shop cards for that work.

(T. 1087)

The work was carried straight through and all the designs were completed just as fast as possible in order to get the cars into operation.

There was no stop put on any of the work. Everything was ordered, completed and installed in the building as soon as it was possible for us to do so, and the cars were converted to the automatic stopping type just as fast as they would let us have a car. (T. 1088)

I made the drawings furnished to plaintiff, being Plaintiff's Exhibits 4-I to X.

Sketch No. 500-239A was completed in December, 1925; Sketch 500-239B was completed in February, 1926 (February 3, 1926); Sketch No. 500-239C was made on December 1, 1925; Sketch No. 500-239D was completed on December 1, 1925; Drawing No. 400-300A was completed on November 16, 1925; Drawing No. 400-300B was completed on November 12, 1925; Drawing No. 400-300C was completed November 17, 1925; Drawing No. 400-300D was completed November 17,

(T. 1088)

1925; Drawing No. 400-300E was completed January 20, 1926; Drawing No. 400-300F was completed December 9, 1925. (T. 1089)

(Testimony of Ray E. DeCamp)

These drawings or sketches 500-239A, B, C, and D, were the simplified diagrams covering the wiring on the Pacific Finance automatic type stopping elevators.

The purpose was for the installation of the job, for use by the electrical men in putting in the job and completing it.

After the car is started in the Pacific Finance Building the drum switch has no further control over the car.

Nothing happens by moving the switch from neutral to full on position and back and forth while the car is moving, because its control is so arranged that after the car is once in motion the car switch has no further control over the motion of the car.

The car switch employed in the Pacific Finance installation is not a master switch. (T. 1090)

A master switch usually has what we may call a master control or, in other words, gives the operator complete control of the car by means of a switch.

The push-buttons in the Pacific Finance installation are not reset by the bridging of the contacts in the floor selector.

The hall push-buttons are reset by the closing of a contact energized momentarily by a hoistway door in conjunction with the Randall signal machine, and the hall signal panel. The car buttons are reset at the limits of travel by the energization of a magnet (T. 1090)

in the car panel by the opening of a hoistway door at the 13th and main floors closing momentarily a switch attached to the doors.

(Testimony of Ray E. DeCamp)

The strips in the Randall machine are not in circuit when the buttons are reset the same as the contacts or switches on the slow-down machine; they are entirely separate from the contacts on the slow-down machine.

(T. 1091)

There is only one set of push-buttons in the car.

They are all released at either the 13th floor or the main floor providing the hoistway door is allowed to open while the car is coming to a landing.

When a hall button is pressed it energizes a self-holding relay on the signal panel.

This hall signal relay on the hall signal panel in conjunction with the Randall signal machine and the switches on the primary slow-down drum will establish either an odd or an even slow-down switch combination to cause the car to slow down, and finally stop level with the landing. (T. 1092)

When the car is going in the up direction it will only be responsive to the up-hall buttons which have been pushed and not to the down-hall buttons.

The direction contactors in the Pacific Finance installation are opened by the switches on the leveling drum.

This has no effect on the car switch.

(T. 1092)

The car button signals are reset by the opening of a hoistway door at either the main or the 13th floor as the car is making a landing at these floors.

The hall signals are reset by the closing of a hoistway door at the particular landing at which the car is stopped.

As to what means is incorporated in the Pacific Finance equipment whereby the operator can by-pass signals in the

(Testimony of Ray E. DeCamp)

car and in the hall, in the car panel is incorporated an operator's hall stop switch by means of which the operator can by-pass the push-button signals in the hall, which will cause the car to pass by these landings without resetting the signals or without lighting the lanterns in the hall.

As to whether the stopping circuits in the Pacific Finance installation; that is, the slow-down leveling, that has anything to do with the stopping of the car, pass through the car switch, I would say there are none of these circuits which pass through the car switch.

(T. 1093)

The direction switch establishes the field circuit of the Ward-Leonard generator in such a direction that the field will be excited to cause the car to either run upward or downward, depending on which direction the switch is in.

The car buttons in the Pacific Finance installation are not reset by coils that are in serries with the floor button contact.

There is no race of circuits in the Pacific Finance Building.

(T. 1094)

There is no differential coil action used in the Pacific Finance installation.

As to how many steps are employed in the slowing down and stopping of the cars in the Pacific Finance installation: There is one step set up by the primary slow-down drum and there are six steps which are initiated by the secondary slow-down drum, and the final, making nine steps as the total of slow-down by means of the automatic slow-down stopping machine.

(Testimony of Ray E. DeCamp)

As to whether this slowing down and stopping of the car occurs upon the floor selector contacts completing the circuit irrespective of further movement of the car, referring to the Randall machine, in the case of the hall buttons and on the primary slow-down drum in the case of the car buttons, I would say this merely initiates the slow-down.

The car will not stop pursuant to that initiation independent of any further movement of the car setting up other stopping and slowing down impulses.

It is necessary for the car to continue in motion in order to bring in the additional relays and contactors which set up a final stopping circuit for the car. (T. 1095)

Those are initiated mechanically by the rotation of the drum which travels in synchronism with the car to make and break contacts stationed around the drums at particular points in the travel of the elevator car.

In the Pacific Finance Installation the cars are not reversed by reversing the armature circuits of the elevator motors. They are reversed by reversing the field of the Ward-Leonard generator. (T. 1095)

The stopping of the cars in the Pacific Finance installation does not depend upon any timing of two magnetic structures. (T. 1096)

The hall button contacts and coils in the Pacific Finance installation have no relation to the contacts on the car buttons.

They do not remain closed when operated.

They are in momentary contact and they open as soon as the pressure is released from the button.

(Testimony of Ray E. DeCamp)

All of this line of testimony objected to as incompetent, irrelevant, immaterial, leading, and suggestive.

Overruled.

Exception.

The car switch in the Pacific Finance installation cannot be manipulated so as to prevent the car from stopping in response to a floor button. The car switch cannot stop the car at all. (T. 1097)

There are no magnets in the car panel except the magnet which releases the push button.

As to whether or not the same means functions to reset the hall and car buttons in the Pacific Finance installation, I would say they are entirely different means with no connection between them. (T. 1097)

If a Pacific Finance installation car passes by the signal that has been set to stop the car, but does not stop it, that will leave the signal set.

The motor circuit in the Pacific Finance installation is not opened to stop the car.

The motor circuit is never opened to stop the car.

The car is stopped by the leveling drum switch opening the direction contactors and opening the brake-releasing contactor which kills the generator field and also operates to set the brake. (T. 1098)

There is no connection between the motor circuit and the field circuit of the Ward-Leonard generator. The motor circuit is kept completed at the time the car is stopped.

The control through the leveling drum and brake that brings about the stopping of the Pacific Finance car does not pass through the car switch in any way.

(Testimony of Ray E. DeCamp)

After the car has started it is not possible for the car switch to be manipulated to open the retaining circuit for the direction relay.

The retaining circuit is not opened to initiate the slowing down and stopping of the car. (T. 1099)

The retaining circuit is opened by the leveling switch.

The directional switch is opened by the leveling switch on the leveling drum. (T. 1099)

The leveling switch that opens these retaining and directional circuits or switches does not have different contacts corresponding to different floors. There are only two of these leveling switches for all the floors.

In the Pacific Finance installation the directional switch is not opened and closed by the same circuit.

There is no circuit opened by different contacts on the floor selector corresponding to the different floors.

There are no control circuits from a floor selector that can be opened by the car switch in the Pacific Finance installation. (T. 1100)

The hall and car button circuits are not completed at the same distance from the floor landings.

The hall circuit is completed in about one and one-half floors and the car circuit is not completed until about twelve feet from the floor.

The hall and car buttons in the Pacific Finance installation are not reset by the same contacts or in the same time.

The closing of a hall button circuit by a floor selector such as the Randall machine does not effect the primary circuit.

(Testimony of Ray E. DeCamp)

The resistor is operated by the slow-down drum in the Pacific Finance installation before the directional contactors are opened.

(T. 1101)

In the Pacific Finance installation the circuits that are set up by the floor selectors do not operate on directional relays to effect power circuits.

Those circuits operate to set up a slow-down or decelerating circuit.

Moved to strike. the answer to this line of testimony as incompetent, irrelevant, and immaterial, leading and suggestive, and at variance with testimony already given.

Denied.

Exception.

Referring to various cards handed to me, these cards are cards used by the Llewellyn Iron Works for recording the time spent by the men in the shop on the particular order numbers, giving the number of hours and the man's number, and the department in which they were used, and also the order number which was worked on at the particular time. (T. 1102)

These cards bear the order numbers which we have referred to in the bills of material previously brought in.

They show approximately 800 hours shop labor prior to November 13, 1925.

I have determined that from the cards.

(T. 1103)

Cross-examination by Mr. Lane.

The car buttons that were actually used for stopping the car in the Pacific Finance Building were completed

(Testimony of Ray E. DeCamp)

sometime between November, 1925, and sometime in January, 1926.

They were not completed before December 1, 1926.

We have drawings to show when the designs of this were first made.

I do not know what is the date of the drawings. I do not have them with me. I made the drawings.

I am pretty sure that I made the drawings for the car buttons that were used in the Pacific Finance Building in October 1925. (T. 1104)

Those were ordered approximately in December 1925.

They were not in the Pacific Finance Building when the cars were operated on manual control, and they were not at the inception at any time previous to January 1926.

On manual control, the first car at the Pacific Finance Building was operated from sometime in January until the first car was put in operation on the automatic.

They operated the first car in the Pacific Finance Building as a manually-controlled car for about two months, from approximately January until March 1926. (T. 1105)

The next car was operated as a manually-controlled operation from January until April 13, 1926.

The third car from January until April 27, 1926; and the fourth car from January until May 11, 1926.

There were no push-buttons in the cars for automatically stopping the cars during that time.

In the Pacific Finance Building, if a hall button had been pushed and the car had stopped say at the 11th or any other floor, the pushing of the button would stop any other car at that particular floor even though the first car

(Testimony of Ray E. DeCamp)

was at that floor providing the signal was not reset by the closing of the door at that particular floor. (T. 1106)

If the door was shut the next car would not stop.

It all depends on the time of closing the hoistway door. If you leave the door open, all the cars would stop at that floor.

It is entirely possible that you would have the whole line of four cars stop at a given floor at a given time.

The last car was put in operation May 11, 1926 and was turned over to the building at that time, and it has been operating ever since on the automatic stopping. (T. 1106)

If any one of the cars is left at a given floor and the operator steps out and the door is closed, any of the other cars may operate independently. (T. 1107)

The pushing of the stopping button in the car or at the landing will operate any single car even if the rest of the bank is not being operated.

I have heard of the Kesten & Osborne patent.

I do not know when I first saw the patent or when I first heard of it.

I do not know whether it was issued in 1916 originally.

I did not see it in connection with some experimental work in 1921.

I did not know anything of it at the time. (T. 1108)

I think it did cover a Ward-Leonard system of a certain type.

I do not know what mechanism was disclosed there to bring the car automatically to a floor landing.

I do not recollect Mr. Baruch testifying about that installation in 1927 concerning the alleged anticipation of

(Testimony of Ray E. DeCamp)

the Kesten & Osborne patent, of installations put in here by our company in 1921 relative to the Kesten & Osborne patent.

I was not present on that occasion. (T. 1109)

(T. 1109)

The 1921 work referred to in my testimony was work done by Mr. Walker and Mr. Bouton, and covered leveling of high-speed cars with main motor leveling.

That was a Ward-Leonard type of control. (T-1110)

That work was to bring the car to the floor, and if it went past, to bring it back.

As to why we discontinued those experiments in 1921, as far as I can remember we had too much business at the time, and we had so many other things to do that we didn't have much time or money to continue with the experiments.

As to whether that testimony was intended to convey the impression that that 1921 work was embodied in the Pacific Finance installation in any way, I would say just in this respect, that on account of using the series field Ward-Leonard generator we were getting at that time as nearly constant speed on the motor as we could with various loads in the car. That was the real disclosure that we found out at that particular time.

We put self-leveling in experimentally for a few months in 1921 and it was taken out and abandoned. (T. 1111)

Mr. Bouton was working for the Westinghouse Electric & Manufacturing Company at that time and he worked with Mr. Walker in the Llewellyn Iron Works at that particular time.

(T. 1113)

(Testimony of Ray E. DeCamp)

I know that they used the series field of the Ward-Leonard generator to accomplish this particular result of getting as nearly constant speed on the car, with various loads, as possible. That particular feature I remember distinctly, which was developed at that time. Whether any patent was applied for on that I can't say.

As to whether the automatic stopping control apparatus installed in the Petroleum Securities Building was ever paid for, I believe that was purely experimental.

I believe we changed some cables in the Pacific Finance installation about a month ago. (T. 1114)

We have had to do with the upkeep and maintaining of the installation just in the same way as any other building would call on us in case they wanted some repair work.

As near as I can determine, Mr. Baruch first told me about the necessity or desirability of using an automatic stopping device for the Pacific Finance Building after we had our Petroleum Securities car in operation, after August 4, 1925. The best I can recall would be in early October, 1925.

Mr. Baruch did not say at that time that he had ever seen any Otis Elevator construction of the signal control type in operation.

He told me I think that he had seen some parts in the Standard Oil Building in New York. He said something (T. 1116)

about seeing a large conduit with wires stretched all over (T. 1116)

the penthouse, and the machines had not been installed.

He described it as a push-button system.

(Testimony of Ray E. DeCamp)

As to whether the cars were stopped automatically either from the cars or the landing, I do not know as to the inside or outside. All I remember him saying is that it was some kind of a push-button system.

I do not recollect that he said the cars were stopped by the operator within the car. I am sure that he did not say that. As I remember, he said nothing but just some kind of a push-button system by which the cars were automatically stopped.

He may have told me that he had seen them in the Standard Oil Building. (T. 1117)

As to whether I recollect that he said he had seen it when he was down there on his Christmas trip in December 1924, I do not recall the date, but I do recall his telling me. I recall that much of it.

As to why they did not install more than one elevator of the automatic stopping type at the Petroleum Securities Building, I cannot answer that since I am not in the Sales Department, and I do not know what efforts they made or whether they many any efforts to sell the Petroleum Securities this type of car or not.

I do not know when they first suggested to the Pacific Finance Company the re-equipping of the manually-controlled cars to the automatic control type.

(T. 1117)

I had no connection with the Sales Department at that time and I did not know what was going on.

The first intimation I had of it was some time in October, 1925, when Mr. Baruch said to go ahead and do the work. (T. 1118)

(Testimony of Ray E. DeCamp)

I do not know of anyone outside of our organization who knew that work was going on at that time or before January, 1926.

In the Pacific Finance installation, completed in May 1926, a car is started by the operator pulling a switch to the up direction.

The power circuit is completed before the fields are completed on the Ward-Leonard set.

When you throw the switch over you complete the circuit which causes the elevator motor to be driven in the up direction. (T. 1119)

That circuit is held closed until the leveling drum switches are actuated.

When the switch in the Pacific Finance installation has been turned to up position, the power stays on the elevator motor until the leveling switch drops out on the leveling drum and the power stays on until the slow-down is initiated.

The pushing of a button in the car or the pushing of a button at a landing causes the car ultimately, through the various chain of mechanism and wiring that I have described, to automatically stop at any given landing. (T. 1119) (T. 1120)

The push buttons in the hall and the car are separate so that when you push the button in the car or at the landing, or both at the same time, the car stops at any given landing.

I think I may have seen the Otis signal control at the Seventh and Main Street job at Los Angeles, and the Merchants National Bank. (T. 1121)

(Testimony of Ray E. DeCamp)

I have seen both of those.

The witness was asked whether the Pacific Finance installation accomplishes the same results as those installations.

Objected to as not proper cross-examination and outside of the direct examination.

Sustained.

Exception. (T. 1122)

I first saw the Otis construction some time after the Pacific Finance.

I think it was the middle of 1926, after the Pacific Finance Building elevators were installed and operating under the automatic system which they are now operating under.

The first Otis signal control I saw was at the Seventh and Main Street Building in Los Angeles.

(T. 1123)

I have never seen any drawings of any of these installations.

The witness was asked whether previous to the time he made the drawings for the automatic stopping devices for the Pacific Finance installation he had ever seen any elevator operating in such a way as to have the operator start the car only from within the car and have the car automatically stop by pushing buttons either in the car or at the landing without any action on the part of the operator after the starting mechanism had been thrown into operation.

Witness answered: Not unless you would call an ordinary push-button elevator the same.

The push-button elevator answers the description. It can be started by an operator in the car.

(Testimony of Ray E. DeCamp)

I would not say that it can only be started from a position in the car. (T. 1124)

I had never seen one previous to the time of the drawings as you have defined them.

I had never seen any drawings or descriptions of any devices of elevators which were started only by an operator operating a switch within the car and which could be automatically stopped either by pushing buttons within the car or from the landing, and the starting could not be done from the push-buttons.

I had never heard of anything like it.

I have been closely connected with elevator work since 1920 with the Llewellyn Iron Works.

(T. 1124)

As to how Plaintiff's Exhibit 4-II is dated February 3, 1926, I do not know just how that came about; I think the drawing was retraced afterwards.

I do not have the original from which the tracing was made.

As far as I know that is the only drawing we have.

That must have been made on February 3, 1926.

(T. 1125)

I made the drawing and I put the date on it. That is the proper date.

I have not looked for any other drawing and I do not know where there is any of that character.

As to whether there is any written record as to when the elevators equipped with automatic stopping were turned over to the Pacific Finance people for their own operation.

(T. 1126)

(Testimony of Ray E. DeCamp)

I made a test there and when I completed the test I made a notation on the test sheets that the car was put into operation on that particular date. I can get the test sheets.

We made the switch control system in the automatic stopping used in the Pacific Finance Building ourselves, and the orders that I referred to are our own internal or inter-department orders.

No orders were given for any of that mechanism to anyone outside of the plant except to the Randall control people, and that was done before this.

(T. 1126)

We built the automatic stopping control mechanism ourselves in our own shops. (T. 1127)

As to whether applications were filed by myself or anyone connected with the Llewellyn Iron Works for patents on the automatic stopping control or any of the devices explained in connection with my testimony of the installation of the Pacific Finance Building, I believe some were filed. (T. 1128)

I cannot answer whether any applications were filed by me because I was only one of the parties. (T. 1129)

I, in association with others, filed applications on some of the devices used in connection with the Pacific Finance installation.

The witness was asked what part of the work was covered in the application.

Objection.

Sustained.

Exception. (T. 1132)

(Testimony of Ray E. DeCamp)

Plaintiff offered to show by this witness for the purposes of the record, that applications were filed at the United States Patent Office covering various of the features of the automatic stopping mechanism utilized by the defendant at the Pacific Finance Building, and that in connection with the filing of those applications the affiants (T. 1132)

stated that invention was involved, and that the devices were not known or used or disclosed to others prior to the date of the invention, and that the dates were very much later than the dates of the Parker patent, and that these have been assigned, that these applications have been assigned, or have been agreed to be assigned, to the defendant Llewellyn Iron Works. (T. 1133)

MR. L. S. LYON: We object to that as incompetent, irrelevant and immaterial, and challenge counsel to prove it; and call attention to the fact that nothing in the offer purports to show that any application has been filed by the defendant purporting to show anything that is shown in the Parker patent.

THE MASTER: The objection is sustained. And I don't think it is a good offer of proof, as far as that goes.

* * *

THE MASTER: I was wondering whether under cross-examination of a witness you are in a position to make an offer of proof as to what he will testify to.

MR. LANE: I am basing it on two facts.

THE MASTER: That is, you are offering to prove by this witness something, and I don't think you are in a position to make an offer of proof as to what you can prove by this witness. Furthermore, your offer of proof

(Testimony of Ray E. DeCamp)

does not show that the applications have any connection with the features of the Parker patent. So it is bad in that respect.

(T-1133)

MR. LANE: I will extend my offer to say that these things embody the principles of the Parker patent, and are simply additions to them.

MR. L. S. LYON: That is argumentative, Your Honor.

THE MASTER: Yes.

* * * (T-1134)

THE MASTER: If you are correct on that point, that you have the right to go into that, you can move for an order to require the defendants herein to bring in and disclose the applications that they have pending.

MR. LANE: Yes, your Honor. But I have to get some foundation for it. I am trying to lay a foundation for that question, and then determine whether it is advisable. If this witness says in answer to the question what they are and they don't relate to it, that is the end of that matter. (T-1135)

VOLUME 9.

(T. 1139)

RAY E. DeCAMP

CROSS-EXAMINATION

Resumed By Mr. Lane.

The Pacific Finance Elevator construction drives the elevator motor with direct current. The stopping mechanism can be adjusted by putting resistance in the generator

(Testimony of Ray E. DeCamp)

field, so that the car can operate at 500 feet per minute full speed. You would have to change the main control panel to change over to operate the car 500 feet per minute.

To change the main control panel you would have to change the resistance in the Ward-Leonard generator in order to decrease the voltage.

That would require a change in the main control panel, and also a change in the automatic slow-down and stopping machine, in order to get the proper speed of deceleration.

That is a case of readjusting the main control panel and the automatic slow-down and stopping machine to get in the speed you want. There is no reason why the Pacific Finance installation could not be operated with the same parts to operate it at 100 feet per minute or 800 feet per minute. That could be done. Assuming that you are operating the car at 100 feet per minute with this same type of mechanism, I do not know just how far in advance of the floor you would have to initiate the stopping in order to have the car stop at the floor.

I could not say whether it would be about 10 inches if there are so many switches to operate. The switches wouldn't go that close together. It would be impossible to adjust the switches so that they would stop at a distance of ten inches. If the car were operatating at 300 feet per minute, you would have to initiate the stopping about one-half or between the floor about five or six feet and the car would stop then at the landing the same way as it is now operating, except that the distance of initiating the stop would be six feet instead of twelve or eighteen. That is true of both the hall button and the car button stopping.

(T. 1142)

(Testimony of Ray E. DeCamp)

In the Pacific installation, when the car is going up, the pushing of any one of the push buttons only stops in the up direction. The pushing of the button in the car only stops the car in the up direction. When you get to the end of the run in the up direction, the car push-buttons are automatically reset, so that they are ready for being pushed for the down direction, providing the door is opened. The same set of buttons, when pushed, will stop the car in the down direction. The car stops from the car push button in the direction in which it is going. When the car is going down, the push button won't stop it in any other direction except down.

The car must go completely through the up travel direction before the buttons are reset for the opposite direction by the automatic arrangement.

There is an automatic manual switch in the Pacific installation which the operator may use at his will, by which the automatic arrangement may be entirely thrown out. That is the automatic manual switch, and is initiated by the operator solely to control the car from the master switch in the car. (T. 1144)

Mr. Walker assisted me in designing this automatic stopping control in October 1925. No one else worked with us. Mr. Baruch just told us what he wanted the car to do, but he did not have anything to do with the design of the control. He just said he wanted the car to stop automatically from the car and hall buttons by means of push buttons, and that on account of having to use the manual control, it would be necessary to use a manually controlled switch in the car. He wanted the car to be started only from within the car, and to have the car stop

(Testimony of Ray E. DeCamp)

automatically from either the floor landing or from within the car.

Referring to the time cards, which are handed the witness, as to when the work was done the month is November 17, 1925 for the first card; November 13, 1925, is the second card; November 19, 1925 for the third card; November 18th is the next card; November 20th is the date stamped on the card for the last one. (T. 1146)

RE-DIRECT EXAMINATION

By Mr. L. S. Lyon (T. 1146)

It is possible to start the car in the Pacific Finance Building without any one being in the car at all. It is essential in any elevator that there be means somewhere besides in the car for starting the car.

It is sometimes necessary to move the car in case the passengers are in the car and cannot get out, in case the door sticks or something like that. You can move the car from the penthouse.

In the operation of the Pacific Finance cars you can reverse the direction of the car. For instance, if you start from the first floor and push a fourth floor button and the car stops at the fourth floor landing, and you push a second-floor button, you can reverse the direction of the car, and you would make a stop at the second floor without resetting the buttons. (T. 1147)

RE-CROSS-EXAMINATION

By MR. LANE (T. 1147)

The pent-house operation is used for emergencies when the cars get stuck or something of that kind. There is no other way in which you could start the cars without the operator being within the car except through the pent-house operation.

(T. 1149)

(Testimony of William A. Doble)

WILLIAM A. DOBLE

Called as a witness on behalf of the Defendants.

DIRECT EXAMINATION

By Mr. L. S. Lyon.

- - - - - -

My name is William A. Doble; age sixty years; residence 190 Seacliff Avenue, San Francisco; occupation, consulting engineer, with office at 1825 Hunter-Dulin Building, San Francisco.

For ten years, approximately, prior to the San Francisco earthquake, I was part of the time vice-president and chief engineer, and the remainder of the time president and chief engineer, in executive control of the Abner Doble Company, at San Francisco. (T. 1149)

This company had a manufacturing plant in which it built machinery involving electrical machinery, and I acted as manager for the Crocker-Wheeler Electric Company, of Ampere, New Jersey, who were manufacturers of motors, generators, and electrical apparatus, and laid out and installed a number of plants using their equipment, including mine hoists, working on the Ward-Leonard system, which was the first of the Ward-Leonard systems that I know of being put in in California; and also acted as manager for the Walker Manufacturing Company of Cleveland, manufacturers of railway and power generators, street railway equipment, and installed some of their power generators and street railway equipment. And since that time I have laid out a number of plants for industrial power distribution, and also handled the purchase of a large electric elevator for automobile work; and also laid out electric cranes, and work of that kind.

(T. 1150)

(Testimony of William A. Doble)

As to my experience as a patent expert witness in patent cases, as part of my work as a consulting engineer, I have acted in the capacity of an expert in a number of cases throughout the country, cases before difference District Courts, and before Judges Morrow, Dietrich, Wright, the late Judge Van Fleet, Judge Bledsoe, Judge Kennamer, of Tulsa, Judge Sawtelle, of Phoenix, Arizona, Judge Henderson, Judge McNary, of Oregon, a Judge from Illinois whose name I don't remember, and before the late Judge Trippet. That is part of them. (T. 1150)

My experience as a patent expert witness has extended over twenty five years. I have made a very careful study and have supervised the taking out of a number of patents, and for the years 1919 to 1923, inclusive, I was in charge of the patent department of the Union Tool Company, having its works at Torrance, California, Chicago, Illinois, and Carnegie, Pennsylvania; and for a number of years have been admitted to practice in the United States Patent Office. (T. 1151)

I have read and am familiar with the disclosures of the Parker reissue patent in suit, and have made an examination of the disclosures of the patents that I propose to refer to in my testimony as showing the prior art relative to the Parker reissue patent. I understand the disclosures of each of these patents, including the Parker reissue patent. I can produce a set of patents which I propose to discuss in my testimony as showing the prior art bearing on the Parker reissue patent in suit.

Counsel for defendants offer in evidence the set of patents to which the witness is to refer as showing the prior art.

(Testimony of William A. Doble)

THE MASTER: I will give them the general exhibit designation of X, and number them beginning with X-1. Patent No. 344,307 to Crouan will be Exhibit X-1.

(T. 1152)

There are two or three patents that are not set up in the answer. The patent to Bullock No. 388,627 is Exhibit X-2.

The patent to W. E. Nickerson, 403,439 will be Exhibit X-3.

The patent to Nickerson, 403,440, will be Exhibit X-4.

The patent to R. F. McFeely, 404,361, will be Exhibit X-5.

The patent to Ongley, 410,182, will be Exhibit X-6.

The patent to Leonard, 468,100 will be Exhibit X-7.

The patent to Coyle, 471,100 will be Exhibit X-8.

The patent to Buffington et al., 530,578, will be Exhibit X-9.

The patent to Strohm, 570,827, wil be Exhibit X-10.

The patent to Smalley et al, 634,220, will be Exhibit X-11.

The patent to Kammerer, 681,555, will be Exhibit X-12.

The patent to Ihlder, 710,914, will be Exhibit X-13.

The patent to Nistle, 718,375, will be Exhibit X-14.

The patent to Worthen, 1,219,061 will be Exhibit X-15.

(T. 1153)

MR. LANE: We object to those which have not been set up in the answer. They cannot be used for the purpose of anticipation, because no notice has been given either by the answer or by twenty days' notice in advance of the trial, as required by Section 4920 of the Statutes.

(T. 1153)

(Testimony of William A. Doble)

The patents to Coyle, Kammerer and Ihlder are not set up in the answer, and are offered to show the state of the art.

MR. LANE: I object to them being considered as anticipations.

THE MASTER: They will not be considered as showing anticipation.

The witness was asked what he considered the closest reference. He stated—I have culled these out of a very large number and I consider them all very pertinent in this case. I do not consider that any one of these patents in this folder X-1 to X-15 discloses the same structure as the Parker patent discloses. (T. 1157)

The patent to Crouan, Defendants' Exhibit X-1, patented June 22, 1886, discloses an elevator operated by hydraulic power. Within the elevator car, as is shown in Fig. 1, as practically an enclosed structure, there are two independent mechanisms, one limited to the manual starting of the car within the car, this being marked m, at the right-hand side of Fig. 1. On the opposite side of the door and above the seat, as shown, is a control box N, containing push-buttons which, when actuated, automatically stop the car at the floor level for which they were pre-set. The teachings of this patent show the use of a starting switch, limited to start the car in either direction, and the use of push-buttons which are set up by the operator so as to automatically stop the car at the predetermined floor. These push-buttons can be, or are, re-set by the opening of the hoistway door, as shown in Fig. 14, Sheet 4, of the patent. And on this same sheet, the manual device limited to starting the car in either

(Testimony of William A. Doble)

direction is illustrated in Fig. 18. The push-button car panel is shown in Figs. 12, 13 and 14. The patentee states in the specification, page 1, lines 13 to 19:

"My invention consists of certain improvements in the construction of hydraulic elevators designed mainly with the view of improving the construction of the valve mechanism and the devices for operating the same, to facilitate the starting and stopping of the elevator."

Defendants' Exhibit X-2, Bullock et al, patent No. 388,627, patented August 28, 1888, discloses an elevator in which the starting of the elevator in either up or down direction is limited to a control rope within the elevator car. Automatic means are provided which can be pre-set to cause the car to automatically stop at any desired floor level. This patent discloses for this purpose the use of two series of cams attached to the wall of the hoistway, one set being for control of the car during its up travel, the other set for the control of the car during the down travel. The car is started manually by the operator within the car, and the automatic stopping means consists of a bar with a roller which can be set laterally for up or down direction, and can be extended at desired distances to cooperate with the cams on the wall of the hatchway to stop the car automatically at the predetermined floor. When it is desired to operate the car manually, the automatic device is left in a neutral position. And when it is desired to stop the car automatically for either direction of travel, then the control lever 26 is shifted into the detents either on the right-hand side or the left-hand side, and each depression in the several detents, numbered corresponding to the floor, so that the operator can shift his

(Testimony of William A. Doble)

automatic lever 26 into the selected detent for the desired floor. Fig. 7 on sheet 3 shows a section through the elevator hoistway, and also the cams attached to the wall of the hoistway for automatically stopping the car at the floor for which the switch has been pre-set. It will be noted that the cams S project from the wall of the hoistway progressively as for upward travel, and the cams S, which are shaded in progressively, project further from the wall of the hoistway for opposite direction. Therefore, in the operation of this elevator the car would be started manually by the operator, who would set up the stopping signal corresponding to the floor at which it was desired the elevator would stop, and on the arrival or approach to that floor the cam will operate the automatic mechanism, bringing the car to rest at that floor.

Defendants' Exhibit X-3, W. E. Nickerson, patented May 14, 1889, is a patent that discloses an electrically operated elevator, wherein a master control switch is mounted within the car itself, and by which means only can the car be started. Mounted within this master control switch are two cams, an up cam D3 and a down cam E3. Each one of these cams has a series of contacts, each at a different radial distance from the axis about which the cams revolve. Each of these contacts is for one floor of the building. Arranged within the master control switch are two contacts or circuit-closing arms or levers, which in their open position rest against abutments. The master control switch is provided with an operating lever K2'. When this lever is in the horizontal position, as shown in Fig. 6 on sheet 3 of the patent drawings, the controlling circuits are open and the car will be at rest.

(Testimony of William A. Doble)

These circuits are open because the contact levers N and L, which are drawn backward by the coil springs N3′ and L3′, are so positioned with respect to the contacts on the direction control cams as to leave the circuit open, this being clearly shown in Fig. 6. When the operator desires that the car should move upward, assuming it to be at the first floor, he will depress the lever K2, say for example to the point marked on the index as plus 4. The first movement of this lever, which is connected to the shaft K on which the direction control cams are mounted, is to close a circuit between the direction control cam D3′ and the contact lever N′ at its contact point in 2. This closes a circuit entering the master control switch by the line or lead T, through the contact lever to the lead M2, which closes the circuit to operate the relay M, shown in Fig. 1. And in looking at Fig. 1 of the patent it will be noted that the cables for carrying the wirings forming the electric circuits are shown mounted in the hoistway, and carried by the car, as is standard construction today. On the wall of the hoistway are cams D, D′, and D2′, and also a second series E, E′ and E2′. These two series of cams are for automatically controlling the stopping of the elevator at the desired floor.

In operation, assuming again that the elevator is at the lower floor and the operator desires to go to the fourth floor, on moving the lever K2 in a downward direction, contact is made between the direction control cam D3 and the lever N, closing a circuit which starts the car upwardly. The operator then depresses the lever to plus 4, and, due to the rotation of the direction control cam, this shifts the position of the end of the lever N to a greater extent,

(Testimony of William A. Doble)

so that the end 5 of the lever N will not contact with any cam until approaching the cam D at the fourth floor. On contacting with this stationary cam D on the wall of the hoistway, end 5 of the lever N is moved in the direction of the arrow S, Fig. 7, and this opens the circuit at the contact of the direction control and floor selecting cam D3′, and the contact N, N2′, of the contact Lever N, thereby deenergizing the relay M, and the car is automatically stopped at the desired floor. We have in the disclosures of this patent a master control switch within the car, the starting of the car being limited to the operating lever K2 of the master control switch, means for selecting the floor at which the car is desired to stop, which means acts to automatically stop the car at the desired floor. The action of the cams in the hatchway is shown in Fig. 9 of sheet 3, and the general shape of the direction and floor-stopping control cam D3′ is shown in Fig. 8.

Defendants' Exhibit X-4, W. E. Nickerson, patented May 14, 1889. This patent discloses an electrically operated and controlled elevator, where, within the elevator car, is positioned a master control switch. This switch would be operated manually by the operator within the car, so that means for starting the car in either direction are within the car itself. Combined with this master control switch, as illustrated in Figs. 1 and 2, is a mechanism moving in unison with the travel of the car, and, as shown more clearly in Fig. 2, consists of a grooved drum D′. Two position-controlling ropes are located within the hoistway and adjacent to the car, one end of the upper rope being secured to the frame structure at the top of

(Testimony of William A. Doble)

the hoistway, and the other rope being spring-connected to the structure at the bottom of the hoistway. These ropes are wound around the drum D1, and secured thereto. These ropes being stationary, as the car ascends the drum D′ rotates in one direction in straight unison with the travel of the car, and, conversely, as the car descends in the hoistway the drum D′ will rotate in the opposite direction in unison with the movement of the car. By this device Nickerson is able to operate the automatic control means in strict register and unison with the position of the car with respect to the level of the floor landings, and avoids all difficulties of creeping of the hoisting cable on the hoisting mechanism of the car, and independent of any stretching of the hoisting cable due to difference in load placed upon the elevator. This will be observed in Figs. 2, 3, 4, and 6, sheet 2 of the specifications, the train of gearing for driving the automatic stopping mechanism by the rotation of the drum D′. It will be noted in the figures referred to that, mounted upon and rotating with the shaft D8′ of the driving mechanism referred to, is positioned a revolving contact plate E. Inserted in this contact plate at opposite sides are two contact blocks. These blocks, as will be noted from Fig. 4, are marked M4′ and H4′. These contact blocks are inserted in the circumference of the rotating automatic stopping contact disc E. Contacting with the contact blocks M4, H4, are two spring contacts M3 and H3, positioned diametrically opposite to each other. Surrounding the contact device E is positioned a stationary ring F, having adjustable detents. The master control switch is provided with an electrode or contact lever K, which is mounted to be re-

(Testimony of William A. Doble)

volved about the axis of the contact stopping disc E. This contact lever K is operated by the operator within the car, by means of the hand-wheel K3. As this hand-wheel K3 is rotated in either direction, it causes the contact lever K to swing about and engage in some one of the detents which are positioned to represent the desired floors at which the car is to be automatically stopped. It will be noted in Fig. 3, on the face of the stationary ring F that the floors are indicated by numerals for the guidance of the operator. In the operation of this device, assuming the car to be at the first floor and the operator desiring to go to the fourth floor, he would rotate the contact lever K to the detent on the ring F positioned for the fourth floor. It will be noted on the contact lever K that there is a contact member K2′ arranged so that it can be brought into contact arrangement with either the contact block M4′ or H4′ that form part of the automatic control mechanism E. On moving the contact lever K manually by the operator, the contacts K2 contact with one of the circuit-closing blocks, either M4 or H4, and thereby completes the circuit for starting the elevator. It will be noted in Fig. 4 that the contact lever K is pivoted or is mounted in a bracket K2, from which a common return wire P returns to one side of each of the relays M′ for the down direction and H′ for the up direction. (T. 1164)

There are two circuits which pass through the controller, made up of the common return wire P, or the common wire P, and then the circuit is formed through H2, leading to the relay H′, which is energized for the up position, and on the opposite side from the spring con-

(Testimony of William A. Doble)

tact M3 the circuit M2 leads to the relay M′ for the downward direction.

When the car is moving in any one direction, one circuit is operating through the controller to control the starting and stopping of the car. That circuit is established to start the car and it is automatically broken in order to stop it. It will be noted on Fig. 1 that the sources of electric energy are marked H M. The car is started by closing the circuit as the contact lever K is brought in contact with either the contact block M4 or H4, this completing the circuit. Then the lever K is set into the detent which represents the floor at which the car is to automatically stop. As the car travels in its hoistway, the rotating block E revolves, and with it the contact blocks M4, H4, and when either one of these blocks passes out of contact with the contact K2′ the circuit is opened and the relay de-energized, and the car automatically stopped.

THE MASTER: I understand that, Mr. Doble, that when the lever is set it is set at a particular point, and the movement of the car causes the contact to ride off a pre-determined distance from the starting place. I understand that. So you can pass to the next one.

The next is defendant's Exhibit X-5, R. F. McFeeley, patented May 28, 1889. This has a master control switch 8. It has some means of pre-*determing* the floor at which the car is to be automatically stopped. (T. 1166)

At the bottom of the master control switch is a lever 10, which engages contacts 11 and 12, 11 to complete the circuit for the down direction and 12 to complete the circuit for the up direction.

(Testimony of William A. Doble)

This is a hydraulic elevator, electrically controlled. There are a series of contacts which are engaged by the lever 9, and which are numbered, and by which the automatic stopping of the elevator is predetermined.

That is, it stops when this shoe rides against the cam on the side of the shaft and that opens the circuit at contacts 3, 4, and that permits the car to stop automatically. Therefore, we have two contacts. You set up a circuit when you move this bar 9, the circuit is opened when it rides against the cam and there are a series of those cams set out of vertical alinement, one being at each floor, as shown at b′, b2′ b3′ and b4′. The starting of the elevator can only be brought about from within the car, and the stopping is automaticaly brought about at whatever floor has been selected.

THE MASTER: That is, your cams are selectively—

A —positioned.

THE MASTER: Yes, I see. (T. 1167)

They are in this vertical alinement and there is a lever with that device for each floor and they register with the stationary cam on the wall of the hatchway for the respective floors.

Referring to Fig. 1, there is indicated a source of electric power 30, from which there is a circuit 15, which is connected to the several contact levers 4. From the contact 3 of each of the automatic floor stopping devices a lead is carried to one of the segments on the automatic control device. Now, then, when the lever 9 is brought in contact with the segment for the particular floor, which is shown as 3 in the patent drawing a circuit then is hot from 30, through 15, through a wire 13, to its selected

(Testimony of William A. Doble)

floor segment, through the contact lever 9, the lead 14, and to the direction control switch 10. In the present case 10 is shown connected in contact with contact 11, for down direction. From this contact there is a circuit set up, 43, which connects to the valve shifting mechanism at the contact spring 29, and through this spring the circuit is carried through the solenoid 41, which is shown more clearly in Fig. 4, and through the solenoid coil to the opposite side of the line. So that when this circuit is complete the action of the solenoid is to actuate the pilot valve, which brings about the shifting of the main valve of the elevator, through controlling the water under pressure to either cylinders 17 or 18 of Fig. 3. And it will be noted in the pilot valve, Fig. 4, that its movement in one direction is brought about by admitting water under pressure, and when this supply is shut off and the exhaust is open, a helical spring behind the piston automatically returns the pilot valve 31 to its inoperative position. Therefore, when the circuit is broken by the lever 7 contacting with one of the stationary cams in the hoistway, the circuit is opened at the contact 4-3, the solenoid coil de-energized, and the valve shifted to neutral and the car brought to rest. The operation of this or its assembly is shown on sheet 3, where the control valve J is shown in one position. This control valve is actuated by a lever 49. To one end of this lever is a stem 16 of the valve-shifting mechanism shown in Fig. 3. This stem is given a longitudinal movement by the action of piston 19 in cylinder 17, when it is desired for the elevator to go down, or by piston 19 in cylinder 18 to shift the valve for upward travel of the elevator. As a safety precaution there is also

(Testimony of William A. Doble)

a manual control system which can be actuated at any time to control the elevator in either upward or downward travel, or stopping manually from within the car. In this patent, on page 4, commencing with line 44, to line 47, it states:

"I have also illustrated the operation of the magnets with an open circuit; but the apparatus may be modified so as to operate them with a closed circuit as well."

And that is carried through; there are several other references to that. For instance, take line 75 on page 4, or 74 and 75: "And mechanism adapted to move the same and to break or to close the branch circuits as the car reaches or approaches the several floors of the building, whereby the action of said magnet is affected automatically to cause the stopping of the car."

And in the McFeeley disclosure we have the starting and stopping of the car from within the car only, and with means to be set to predetermine the automatic stopping of the car at the desired floors.

The next patent is Ongley. As to whether it has a master switch this is a little different construction. Defendant's Exhibit X-6, C. E. Ongley, patented September 3, 1889, discloses an electrically controlled elevator, shown in the drawings as to be hydraulically operated, though in the specifications, page 1, line 39, it states:

"C, by hydraulic cylinder or other motor, by which the car is raised."

Ongley has provided, as shown more clearly in Fig. 2 of the patent, electrical controlling circuits for the car, for controlling the starting of the car in either direction, and the automatic stopping of the car level with the desired

(Testimony of William A. Doble)

floor. Within the car are push-buttons 5 and 6. The actuation of push-button 5 completes a circuit from the source of power F, through the pilot control valve, E. This completes a circuit through one of the solenoid coils E9 or E10. When one of these coils is energized, it shifts the pilot control valve, which in turn operates the main valve of the elevator, as shown in Fig. 4, sheet 3. The push-buttons in this car are of the momentary contact type, so that as soon as the push-button 5 is released the pilot valve returns to neutral and retains the main control valve in its adjusted position. To move the car upwardly the push-button 6 is momentarily controlled. To stop the elevator automatically at a floor level, the push-button 15 is closed, completing a circuit through the supply lead 2 and through an automatic stopping and leveling device carried by the car, and arranged to contact with contacts on the wall of the hoistway, one set of leveling contacts being positioned at each floor landing, the construction of the contacts being shown a little more clearly in Fig. 5 on Sheet 3. At the upper end of the main valve stem is a cam arrangement, which is arranged to close circuits through either the spring contacts R′ or R. Therefore, as the car would be going upwards the shoe O would contact with the stationary contact N, and the length of the contact N is made to allow for the deceleration of the car as it approaches the floor and the shifting of the main valve.

The circuit is broken, the pilot valve returns to neutral, and the main valve has been returned to neutral. Now, at each floor are three additional control circuits. Circuit 7-8, through push-button 10, is for starting the elevator

(Testimony of William A. Doble)

in the down direction. Circuit 7-9, through push-button 11, is for starting the car in the up direction. Circuit 7-18, through the push-button 19, is exclusively limited to the stopping of the car automatically at each landing. This will be noted as an independent circuit running from the positive main 2, through the wire 7, the controlling push-button 19, the wire 18, to the stationary contacts mounted on the wall of the hoistway, one set for each floor. Therefore, when the car is desired to be stopped as it is moving, the intending passenger simply completes the stopping circuit by actuating the push-button 19, when the contact O on the car, if we assume the car to be going downwardly, contacts with the stationary contacts MM, MM′, the circuit is closed for shifting the main valve, through the means of the pilot valve, and when the contact has run over these contact plates, the pilot valve is returned to neutral, holding the elevator in a stationary position. (T. 1173)

As to what effect it would have on the automatic stopping circuits or their function and the way they operate if starting circuits at the floor were either disconnected or omitted, there is absolutely no connection between them. They are functionally indifferent to each other, in that it will be noted that the stopping circuit is an independent complete circuit from the main 2, through the wire 7, push-button 19, wire 18, through the contacts M′, and their connecting wiring, through the wire 13, either the spring contacts R, R′, either the wires 16 or 17, through the solenoids of the pilot valve, solenoids either E9 or E10, and back to the negative supply, and it will be noted that the stopping circuit is an entirely independent circuit, and

(Testimony of William A. Doble)

as the circuits are functionally indifferent to each other it would make no difference whether the starting circuits were in or left out. In other words, the stopping circuit through the contact 19 has no effect in any way with the functioning of the starting circuit 7-9 or the starting circuit 7-8. They are completely independent. All of these functions, your Honor, will very clearly appear in the specifications. For instance, on page 3, commencing with line 3:

"The term push-button, is herein used for convenience and it is to be understood as including any means for making and breaking the circuits."

Have I made that sufficiently clear in detail, your Honor?

THE MASTER: Yes. I think you can go on to the next one. The next one is H. W. Leonard.

A Defendants' Exhibit X-7, H. W. Leonard, patented February 2, 1892, discloses the use of the Ward-Leonard control system, which has been referred to so extensively in this case, and as applied for the control of an elevator both as to its direction of travel and the speed of travel. This same general construction is in use at this date in modern manual controlled elevators. The car is illustrated as D in Fig. 1, and the controlling lever as b. The movement of this lever in one direction or the other starts the car, and accelerates it to full speed. On approaching the landing the speed of the car is decelerated, and it is brought to rest by the position of the lever in neutral position. The car is controlled for the opposite direction of travel by a reversal of the direction of movement of the manual controlled switch lever. It will be observed that this car is started, stopped and controlled for acceleration and deceleration from within the car. I think your Honor understands that. (T. 1175)

(T. 1176)

(Testimony of Robert H. Gaylord)

ROBERT H. GAYLORD

Called As A Witness on Behalf of the Defendants.

DIRECT EXAMINATION

by Mr. L. S. Lyon.

My name is Robert H. Gaylord; age 53; residence 1814 Virginia Road, Los Angeles. I am here in answer to a subpoena and am Coast Manager of the Elevator Supplies Company. The business of that company is elevator accessories, elevator signals, and elevator penumatic door operators.

In 1925 I was with the Elevator Supplies Company and in the summer of 1925 I examined the installation by the Llewellyn Iron Works at the Petroleum Securities Building. There was automatic car stopping equipment on the No. 4 car in that installation. It had the Elevator Supplies signal selector.

I came in contact at that time with the representatives of the Otis Elevator Company. Mr. Sauter, who was with Otis at that time, asked me to take him over to see the equipment. Part of that equipment was a new signal equipment that we had installed which we had brought out recently at that time, and Mr. Sauter asked if I would take him over and show him this equipment. I did.

I think we were accompanied by a Mr. Scholtz and I think Mr. Keller and a Mr. Selenta. They were with the Otis Elevator Company in various capacities. (T. 1178) We rode up and down in this No. 4 car and also in some of the other cars. Primarily I was interested in showing

(Testimony of Robert H. Gaylord)

them what we called the selective signal system, which had to do with the signals.

No. 4 car had a row of push-buttons within the car. These push-buttons, upon being operated, would stop the car at the landing for that particular button. There was also the ordinary signal buttons which were in the corridor, any one of which would stop that particular car, provided that was the car within the zone, and it was the car that was to be controlled. (T. 1178)

I do not know that the operation of the car buttons and the car buttons were examined by the representatives of the Otis Elevator Company to any great extent. No particular time was given to the push buttons. They were operated while they were in the car. They wouldn't be able to see what was done in regard to the hall buttons, because I don't remember that the car stopped at the particular floor to take on a passenger during the time that we were in the car. We looked at the equipment in the pent-house.

I think the Otis representatives looked it over casually. I don't suppose we were up at the pent house over ten or fifteen minutes. I explained relative to our signal equipment. I think they examined the other equipment in the pent house in addition to what I explained to them. I cannot fix the date definitely. All I can say is that we finished the signal job on or about June 1, 1925; that was the date of our completion. And our final acceptance of the job was July 12th and it was sometime during that time, because I spent quite a little time up there finishing up the equipment and looking over the job; and it was during that time that they were over looking at it.

(Testimony of Robert H. Gaylord)

I received a telegram from a Mr. Pratt, who was our Vice-President, in Hoboken, asking if we on the Coast were offering any assitance to the Llewellyn Iron Works in perfecting this equipment. (T. 1180)

The telegram wasn't specific in referring to any particular party or firm and made no reference to the Otis people. That telegram was received on or about October 10, 1925.

Under date of June 6th I forwarded to our home office for the purpose of advertising a set of photographs, showing our signal equipment, and we also wrote up an article on it, and it was after that date that I received this telegram asking what we had done to assist Llewellyn, if anything, relative to work on this No. 4 elevator.

I did not receive any other information or communications from our office, indicating that the fact that our signal system had been used for automatic stopping on that elevator had been brought to the attention of our home office by the Otis Elevator Company. The date of the telegram from our home office is October 10, 1925, and that was after this inspection of the No. 4 car by the Otis Elevator representatives. (T. 1181)

(T. 1182)

CROSS-EXAMINATION

by MR. LANE.

I first saw one of the Otis Elevator signal control elevators about July 1924 in the Standard Oil Building in New York. There were push buttons in the corridor, which were used by the passengers, and in the car was a row of push-buttons, which were used to initiate or stop

(Testimony of Robert H. Gaylord)

the car for the passengers within the car. The operation of the device was similar to this: If a person went in the car they would call their floor, and the operator in turn would operate a button; and if another person came in he would push in the button for a given number of floor, corresponding to the different floors. The operator would then push another button, which would close the door, and the elevator would stop at the floor at which the first push-button had been operated; that is, the first floor, and then the door would open; and the operator would then, after the passenger had left the car, push this button again, and the door would shut and the elevator would go to the next successive floor, and that operation was repeated through the entire travel of the car. If a push-button had been operated from without, in the corridor, the car would stop at that floor, take on the passenger, and then the operator would operate the button in the car, which we called a master button, and the door would shut and the car would go to the next floor for which a button had been operated. (T. 1183)

You could not start the car from any other place than within the car. The car would stop at the floor at which a button had been operated, the nearest floor. That was in July, 1924. Previous to that time I had not seen any such a structure as I then saw and there was none that operated in that manner so far as I knew. I have been connected with the Elevator Supplies Company since 1912, and have been familiar with the elevator business since that time.

I took the Otis representatives over to the installation because Mr. Sauter requested to see the signal equipment

(Testimony of Robert H. Gaylord)

and he wished to see the equipment on No. 4 elevator. Primarily, I explained to him relative to the signals. You see, the signals were a new development of ours, the signals themselves, and they had created quite a little interest, and, naturally, that is what I was interested in explaining to him. (T. 1185)

I mean the signals which indicate to the passengers the approach of an elevator and the signals that indicate to the operator that a call has been initiated and that the car is to stop to take on a passenger at a landing.

The stopping of the car for a waiting passenger was tied in with the signal system.

We received a contract for a complete selective signal system. That is the type of system that is used in a great many office buildings, consisting of the passenger landings, the operator's flash, and means for indicating the location of the car at the first floor. That is the average signal system. (T. 1186)

That had nothing to do with the automatic stopping of the car through the pushing of buttons within the car. As originally installed, the buttons from the outside would simply indicate to the operator in the car when the car should be stopped by him, that is, manually controlled. That was the original installation.

I could not say as to whether this stopping equipment of the No. 4 car was part of the original contract for that installation at the Petroleum Securities Building. The gentlemen were there about ten or fifteen minutes. I suppose I took practically all of that time in explaining

(Testimony of Robert H. Gaylord)

to them our signal control equipment, and their examination of the other equipment was merely incidental to that.

I do not remember that the car was stopped by any hall buttons while it was being operated on the occasion of our examining that structure. I do not remember whether there was any comment about that during the time we were there. I was over in the pent house with Mr. Kern, the manager of the building, about two weeks ago.

(T. 1188)

RE-DIRECT EXAMINATION

By Mr. L. S. LYON

The representatives of the Otis Elevator Company were interested in the automatic stopping equpiment of the No. 4 car on the occasion of its inspection.

Our main control panel was adjacent to No. 4 elevator, that is, our signal panel was adjacent to this No. 4 elevator, and we were looking at the equipment as a whole, and they spent some time examining the operating mechanism for the No. 4 car.

As to what examination the representatives of the Otis Elevator Company made of the automatic topping, they looked at the panel controlling the No. 4 car. As to the selector, I am not sure now whether it was encased or not. We generally encase those selectors, and I don't remember whether at that time it had a case over it or not. I mean by the selector the revolving drum that carries the cams that bring about the leveling of the elevator. (T. 1189)

As to how the motor on the No. 4 car was operated, it was a variable voltage machine. We have in connec-

(Testimony of Robert H. Gaylord)

tion with each one of those cars a commutator machine, which controls the signal. There is in connection with that a circuit which controls the operator's flash in the car. Llewellyn utilized that circuit for bringing about the initial stopping of the car at a landing.

That was connected to our commutator machine, and that circuit was carried to a relay which was cut in on the common control circuit of the elevator.

I do not know whether there was any inspection in particular of that arrangement by the Otis representatives. There were just a pair of wires leading from our machine. They could see the wires. I do not think anything was said either by myself or by them about what those wires were.

As to what examination or inspection was made of the variable voltage hoisting mechanism by the Otis Elevator representatives on the occasion of that inspection, I think that the question came up relative to the speed of the elevators, and I believe that they were looking at the size of the drums to see whether or not those elevators were 600-feet-per-minute cars or not. (T-1191)

On that occasion inspection of the hoisting mechanism of the No. 4 car, my recollection is that there was just a casual looking over of the equipment. (T-1192)

I think the remark was passed that the car made accurate stops. I was interested in having them see the operation of the signal equipment because it had been a new development by our company. They did not confine their inspection to the signal equipment entirely. They looked over the equipment on the No. 4 elevator.

(Testimony of Robert H. Gaylord)

The floor selector employed in the Standard Oil Building in New York in connection with the Otis signal control, that was a vertical type which, to all general appearances, is similar to the one that they now use. The leveling or stopping cams in the Standard Oil Building were not up in the pent house. They were up in the selector when I saw the Standard Oil job in 1924. I am quite positive. A variable voltage hoisting motor was used on that job at that time. I remember seeing the motor generator set and I would assume that it was a variable voltage.

Objected to as outside the scope of the cross-examination.

THE MASTER: All of that in reference to the Standard Oil Building in New York may be stricken out.

MR. L. S. LYON: I make a motion at this time to strike out all of the testimony of the witness regarding the Standard Oil installation in New York.

THE MASTER: So ordered.

(T-1194)

As to what any representatives of our company had to do with the hooking up of our signal system with the hoisting mechanism of the No. 4 car at the Petroleum Securities Building to bring about automatic stopping, the only thing that we did was to advise Mr. DeCamp of the Llewellyn Iron Works of the circuit from our car operator's signal. I could not say where the idea came from of the circuit from our signal system that brought about the automatic stopping. It did not come from our company. I could not say where the suggestion originated of

(Testimony of Robert H. Gaylord)

stopping the car automatically from our signal system. It did not come from the company.

The first thing I knew about the plan to use our signal system to bring about automatic stopping in elevator installations was that Mr. DeCamp or Mr. Baruch of the Llewellyn Iron Works called me up and asked if there would be any objection to their tapping our operator's signal circuit to be used in connection with their equipment on No. 4 elevator.

(T. 1195)

RE-CROSS EXAMINATION

BY MR. LANE

We completed the installation of the elevator construction that we installed at the Petroleum Securities Building previous to the time of putting on this automatic stopping arrangement, June 1, 1925.

(T-1196)

ROBERT H. GAYLORD

examined in rebuttal for Plaintiff,

Out of order, by agreement.

DIRECT EXAMINATION

by Mr. Lane

I saw the Standard Oil job in New York of the Otis signal control in July, 1924.

Q Do you remember whether the device was marked in any way?

(Testimony of Robert H. Gaylord)

MR. L. S. LYON: We object to that as not rebuttal testimony, your Honor. There will be nothing of that kind in the defendants' case to which that could be rebuttal.

MR. LANE: That is just one preliminary question, is all I care to ask.

MR. L. S. LYON: It is not rebuttal and should not be allowed in the record at all.

THE MASTER: I don't see what it relates to. The objection is sustained.

MR. LANE: I will take the answer, if I may.

Q Do you know how it was marked?

MR. L. S. LYON: The objection was sustained.

THE MASTER: How do you mean as to how it was marked?

MR. LANE: Whether it was marked "Otis signal control."

THE MASTER: Do you mean whether the name was marked on it?

MR. LANE: Yes.

Q BY THE MASTER: Did you notice that name on it? You may answer that question.

A The push-button station in the car was marked "Otis Signal Control."

(T-1197)

The push button stationed in the car was marked Otis Signal Control.

(T. 1200)

(Testimony of William A. Doble)

WILLIAM A. DOBLE

Recalled on behalf of the Defendants.

DIRECT EXAMINATION

Resumed by Mr. L. S. Lyon.

Defendants' Exhibit X-8, A. M. Coyle, patented March 22, 1892, discloses an electrically controlled, hydraulic operated elevator. The system provides push-buttons within the car, one for each floor, so that by the actuation of any push button the car will proceed to that floor and automatically stop at the floor. The push-buttons have a dual function, one, for starting the car, and the second for setting up a combination for stopping the car at the floor desired. The system is complete with non-interference devices, so that the car cannot be put in motion should any of the hoistway doors be left open. In other words, each hoistway door must be fully closed before the car can start. Within the car a yielding floor is provided, so that when a passenger or passengers are within the car it cuts the circuit to the hall push buttons so that the travel of the car cannot be interfered with. There is a push-button at each floor for bringing the elevator to the floor and for setting up the combination for stopping the elevator automatically at the floor. The disclosures of the patent, in addition to these non-interference and safety devices, include an automatic control box for each floor. These are shown at the lower right-hand side of the general design. These automatic controls are spaced about one-fourth the distance between the floors of the building, and the circuits set up are transferred to a

(Testimony of William A. Doble)

metallic band made in two sections, with insulation between the sections. This band travels in unison with the movement of the car by being carried on the cross-head of the piston rod, upon which are mounted the sheaves around which the hoisting rope is passed, and by having several wraps of the rope, say four for example, the car will travel four feet for each one-foot of travel of the cross-head of the piston rod, the construction of these control elements being shown in Fig. II and in Fig. III and in Fig. IV on sheet 2. The insulation separators on this metallic band are such that if, for instance, the elevator is at a middle floor in the building, and if a push-button is actuated at a higher floor, the closing of the control circuit with the ribbon will fall at one side of the insulated section and cause the car to move upwardly, whereas, if the car is at the middle floor and a push-button be actuated at a floor below where the car is positioned, the contact will close and complete a circuit through the other band, and cause the car to travel downwardly. There is in each control box a magnet P, connected with the push-button circuit, so that when this magnet is energized it releases a latch and permits a spring-actuated contact to connect the circuit to either one of the bands, and at the same time it opens the circuit of the push-buttons to prevent interference. Therefore, when passengers enter the car and close the hoistway gate, it completes the main control circuit, and the weight of one of more occupants of the car disconnects the hall control circuits, leaving the car under the total control, both for starting and stopping, of the operator within the car. Does that give you all the information you wish, your Honor (T. 1201-1203)

(Testimony of William A. Doble)

Referring to the observation "It is not likely that the two buttons would be pressed at exactly the same instant; but to avoid confusion from such an event I propose to make the loops from the several floors of different resistance, so that one magnet will act more promptly than the others," the theory of that is that in case passengers at two floors should press the buttons, by having a differential resistance, one contact would be closed first, and as soon as one of the contacts m of Fig. II is released it releases the circuit to the other hall push-buttons so as to prevent interference.

In that case they both punch them at the same instant. The Master asked whether, after he had made that arrangement, supposing that the passengers push button had been pushed a certain interval of time after, the slower push-button would catch up with it; that will happen just as often as the instantaneous pushing of buttons, won't it?

The witness answered—I think under the law of probabilities it would, yes. But under the law of probabilities the instantaneous pushing of two buttons at the same instant would be more or less remote.

The Master: So he really didn't accomplish much by that.

The witness answered—I don't think we are relying very much on that one particular statement. You will note in Fig. II that there is a cam which joins two of the ends of these car transmitting strips which act to stop the car at the desired floor, that is, when this cam Q passes under the end of the contact arm M. It opens the circuit and the contact arm M is then latched back. There are some

(Testimony of William A. Doble)

other safety features in here, which I don't presume you care to go into.

Defendants' Exhibit X-9, L. S. Buffington et al, patented December 11, 1894, discloses an electrically controlled, electrically operated elevator, with the controlling switches for starting the car in either direction, and for selecting the floor at which it is desired that the car will stop located within the car. The direction switch d' is arranged to swing to either of two contacts, one for up direction and one for down direction, and these control the direction switch feeding current to the armature of the motor. On the car is a cam b, and position adjacent to each floor is a device for automatically stopping the car at the desired floor, each contact of the automatic floor stopping control in the car being carried to the magnet a of the automatic device, one of which is position adjacent each floor. (T. 1205)

In the operation of the car the operator will pre-select the floor, the next floor, at which he desires to stop. As shown in Fig. 1 of the patent, this arm c is position for stopping the car at the third floor. By energizing the magnet in the automatic floor selector, a swinging contact or oscillating contact is projected so that as the car passes that floor it will swing the switch member to open the circuit through the motor. This installation is equipped with an accelerating means, and the switch arm is drawn over by a solenoid, which introduces resistance in the motor circuit and ultimately stops the car. When the solenoid is deenergized, the arm of the controlling device is brought back by a spring. This installation also includes a brake, which is held in released position by com-

(Testimony of William A. Doble)

pressed air, and when the controller is brought to the off position, the opposite end of the controller lever completes a circuit through the contact h5′, which energizes a magnet i, releasing the compressed air from the cylinder, and the brake is applied by a weight. The actuation of the floor controller in position for stopping the car is shown in Fig. 3, sheet 1, and when the floor controller is out of the line or path of the cam on the car so as to permit the car to pass a floor without causing it to stop. The arrangement of these parts is shown in Fig. 3. There is a modification of this device on the other sheet.

Defendants' Exhibit X-10, S. D. Strohm, patented November 3, 1896, discloses an elevator operated by hydraulic power by electric control mechanism. The specification states, page 1, line 19:

"My invention is capable of being applied to and carried out in connection with any elevator irrespective of type or motor mechanism."

The elevator is provided with a control within the car, by which the car is manually started in either direction. Therefore, the only means for starting the car is within the car itself. On sheet 2, Fig. 2, electric switch mechanism is shown within the car itself for starting the car in either direction. As shown in Fig. 1, on each floor there are two push-button stopping stations. These push-buttons can only be used for stopping the car, and are actuated by a waiting passenger so that on the actuation of one of these push-buttons the circuit in which its contacts are located is opened. But there is a by-pass circuit so that by the actuation of the push-button itself, it only opens one point in the circuit or one gap in the circuit.

(Testimony of William A. Doble)

To complete the stopping of the car after a push-button has been actuated, and upon the arrival of the car at the floor, there is a secondary control switch in the same circuit, making a second gap. This secondary control is opened automatically by a cam carried on the top of the car. And it will be noted from Fig. 1 that at each floor, as illustrated, are two stopping stations on the top of the car, and there are two of these automatic stopping cams. These automatic stopping cams are independent of each other, and each one is provided with a rope or cord, marked 40, on the right-hand cam mechanism, which extends into the car, so that either one or both of these cams can be withdrawn and in that way the operation or actuation of a push-button in the circuit of that particular cam will be cut out of service. So that a waiting passenger can press the push-button at one of the stations on each floor, and when the car arrives at that floor the cam on the car will automatically cause the car to stop at that floor. The system is provided with these control circuits passing through safety devices, such as shown in Figs. 3 and 4, so that the car cannot be put into motion unless the doors of the hoistway are closed, and also, as shown in Fig 1, the car door must be closed. The only means for starting this car or putting it into actuation is by the means within the car, and in addition thereto there are provided the push-buttons at each floor, the sole purpose of which is to automatically bring the car to a stop at that floor in response to the actuation of one of the push-button stations by a waiting passenger.

Yes; the car would stop in response to different push-buttons, which could be actuated at random, and the car

(Testimony of William A. Doble)

would stop in the order of the floors. To carry that out, this by-pass circuit is provided, which is actuated by the cam or cams on the car. (T. 1208)

Explaining the operation of the starting switch in the car relative to its actuating direction relays or magnets, in Fig. 2 there is a control switch 86—or there is a control switch 85, which can be moved in either up or down direction, or neutral, for stopping the car, the two, the up and the down, contacts being numbered 86 and 87. And when these are actuated and the hoistway doors are closed, the circuit is set up through the relays for operating the control of the elevator in either direction.

The next patent, Defendants' Exhibit X-11, to J. B. Smalley and C. A. Reiners, patented October 3, 1899, discloses signaling devices for a bank of elevators, and the signal controls in the Petroleum Securities Building are substantially in accord with this early patent. And by the use of this device there are push-buttons at each landing—. In response to the (T. 1209)

actuation of an up button the stop signals are set through the machine to cause the stopping of the first car that approaches the landing when traveling in that direction.

This patent shows the establishment of circuits by contacts that are moved across strips that are divided into segments. It operates substantially the same as the Randall Signal control.

I would like to call attention to the up and down buttons at each landing. The stopping of the car is in response to the signal, which is what has been referred to here as the operator or car flash light. It does not

(Testimony of William A. Doble)

stop the car at all. It signals the operator to stop it. In other words, the operator is a human relay.

And in Fig. 5 you will note the arrangement so that when the car has made the trip to the top floor, the brush carriage is tilted over to the other side, for the opposite direction. In other words, it is substantially the same as this Randall machine. (T. 1211)

The next patent, Exhibit X-12, to O. Kammerer, patented August 27, 1901, is an electrically controlled elevator, in which there is a master switch within the car, which, by movement in one direction, starts the car upwardly, and when moved in the opposite direction starts the car in the downward travel. Attached to the walls of the hoistway are a series of cams which are spaced apart in vertical alinement. There is one of these cams positioned to stop the car at each floor in its travel, and in starting the car, the control lever of the master switch is moved either in the upward or the downward direction, and shifted longitudinally so as to bring the releasing arm to contact with the cam at the floor where it is desired that the car will automatically stop. In this device there is a detent for holding the car switch in either the upward or downward running position, and connected with the switch arm is a double-acting spring mechanism. When the car comes to the cam at the floor for which it has been set to automatically stop, the pawl of this detent mechanism is released and the arm springs back to neutral and stops the car. There is a second cam rail system which acts to decelerate the car as it approaches the floor, and also to accelerate the car as it leaves the floor. In other words, the acceleration and

(Testimony of William A. Doble)

deceleration of the car are automatically controlled. The starting of the car in either direction is controlled within the car, and when the car switch has been moved to either direction, i. e., for upward or downward travel, the lever is locked in that position by a detent, which, on arrival at the desired stopping point, is released, thereby releasing the switch arm so that it opens the circuit to the motor and stops the car. The circuits are shown on sheet 2.

Defendants' Exhibit X-13, J. D. Ihlder, patented October 7, 1902, discloses an electrically operated, electrically controlled elevator, with push-buttons at the landings and push-buttons within the car. These push-buttons have a dual function, one being to start the car in motion either upward or downward, and the second function being to set up the combination which causes the car to stop automatically at the floor corresponding to the push-button that has been actuated. These push-buttons work through a floor selector, which causes the stopping of the car at the desired floor. There is a non-interference connection in this device, which, after one push-button has been actuated, opens the circuit to the other push-buttons. But in this case, as in the patent which we earlier referred to, if at the same instant two push-buttons were actuated, there would be a conflict, which would prevent the operation of the elevator in response to a button until the direction control switch moved definitely to one side or the other. But that is a rather remote possibility. In sheet 1 there is a single-speed, one-field on the elevator motor, and a brake coil for automatically applying a brake to stop the car. On the design of sheet 2 there are several field coils shown for varying the speed of the elevator. Is that clear, your Honor?

(Testimony of William A. Doble)

THE MASTER: Yes.

A The details of the switches and the floor controller are shown on sheet 3, and on sheet 3, Figs. 4 and 7 show the controller in the form of a drum, with the helical contacts and the drum moving laterally on a threaded support to maintain the registration of the brushes on the helical contacts.

THE MASTER: How does it revers?

A It is reversed, your Honor, by the double-throw elephant type of switches, shown in Figs. 5 and 6 of sheet 3, when one of the magnets, either B′ or B2, whichever one is actuated, attracts the pendulum armature B3, and sets up the combination. And this is determined by the position of the car through the floor selector. As shown in Fig. 1, this has two contacts, and one of these contacts C^3 sets up the circuit through the coil B^9, which would throw the armature B^3 of the direction changer to set up that combination; and, if it is a contact through which the circuit has been completed which contacts with the cam C^4 of the floor selector, then that closes the circuit through the coil B^{10} of the direction changer.

In Fig. 8 on sheet 3 the controlling mechanism is shown as connected with a chain N^2, which is attached to the bottom of the car.

And the purpose of that arrangement is to insure the floor selector moving in unison with the actual movement of the car so that it would not be thrown out of adjustment by creepage of the hoisting cable on the hoist motor sheaves or due to stretching of the cable to a different extent, depending on the load on the car, and therefore affecting the length of the hoist ropes.

(Testimony of William A. Doble)

Defendants' Exhibit X-14, G. W. Nistle, patented January 13, 1903, discloses an elevator mechanically controlled, with means within the car itself for the exclusive starting of the car manually in either direction. In addition to this manual starting from within the car there are automatic pre-registering push-button stopping devices. On the wall of the hoistway is a series of cams out of vertical alinement, one cam being positioned for each floor landing, that is the cam 20 in Fig. 1.

(T. 1215)

This is different from Kammerer in this respect. Of course, they are both manually operated or manually started for direction and automatically stopped. Cams are mechanically operated; to correspond with each cam there is a contact lever provided, with a roller, and on each one of these levers, one of which represents each floor, is a push-button device. So that as all of these elements are independent in their functioning, that is, the arms for each automatic stop, the operator can pre-register the floor or floors at which it is desired for the car to automatically stop, this being done by simply pressing push-buttons, which are illustrated in Fig. 2 on sheet 2. And any number of these automatic stopping push-buttons can be actuated at random, and the car will automatically stop in the order of the floors as the car reaches them. (T. 1215)

When it reaches one of those floors, the cam is mechanically moved inwardly, and that throws the control device.

If I may, I will quote from the specifications on page 3, commencing with line 39:

(Testimony of William A. Doble)

"In this manner, by the pressing outwardly of any appropriate arm 17, the car may be caused to automatically stop at the desired landing, and it is immaterial how many of the arms are thus actuated at the same time or during a single ascent or descent of the car, since the mechanisms which effect the stopping of the car at the several landings are all independent. For instance, if three passengers desire to stop at the second, fourth, and sixth landings, respectively, all three of the arms 17 corresponding to these landings may be set before starting. The car will automatically stop first at the second landing, after which the mechanism for that landing will be restored to normal position by raising the pawl carrying the numeral '2'. The car will then automatically stop at the fourth landing, after which the mechanism controlling the stopping of the car at that point will be rendered idle through the raising of the pawl bearing the numeral '4', after which the car will continue to and automatically stop at the sixth floor."

And commencing at line 111 on page 3:

"This relieves the operator of the burden of remembering all of the landings as they are ordinarily announced to him, and reduces his labor and responsibility to the setting and resetting of the stop mechanism and the restarting of the car after each stop."

Therefore, in the operation of this device, based on the teachings and disclosures of the patent, as the passengers would enter the car, say at the first floor, they could or would announce to the operator the floors at which they desired to leave the car. These would then be set up at random as given by the passengers, and the

(Testimony of William A. Doble)

operator would set these buttons, and the car would then stop in the order of floors as reached. And, therefore, the operator is only required to start the car, and on arriving at a pre-selected floor the car will automatically stop. When the passenger has left the car, the operator would then start the car, the starting of the car in either direction being only under the control of the operator within the car, wherein this master control switch is situated.

Defendants' Exhibit X-15, F. F. Worthen, patented March 3, 1917, discloses an electrically controlled elevator. In Fig. 15, page 5, the electrical control is arranged to operate an elevator actuated by hydraulic power. Fig. 17 of the same sheet shows the direction control switch as it would be arranged for an electrically operated car. Within the car of the Worthen patent is a master control switch box, a face view of which is shown on sheet 1 of the drawings, Fig. 1. For each floor there is a signal switch. The present illustration shows a device for four floors. The starting of the car is controlled entirely from within the car by the operator. In the operation of a device made in accordance with this patent, and assuming the car was at the first floor, as the passengers entered the car and announced the floors, the operator would actuate the switches for each floor at random, as given by the passengers, and in actuating these switches it has an indicator which indicates to the operator and passengers the floors at which the elevator is to stop on that particular trip. In looking at Fig. 1 it will be noted that the figures 2 and 3 are displayed, and this set-up indicates to the passengers that the car will make its first stop at

(Testimony of William A. Doble)

the second floor, and another stop at the third floor, and so on, to whatever number of floors there are in the building. When the car is at the first floor, the indicator for the first floor would also show the figure 1, which is dotted in in Fig 1. When the passengers have announced the floors to which they desire to go and these switches are actuated at random, then the operator moves the switch covering the figure 1 for the first floor, and this starts the elevator in its upward movement. When the elevator arrives at the second floor, it will automatically stop. When the passenger has left the car, the operator shifts the switch for the second floor covering the numeral 2, and the car automatically proceeds and automatically stops at the third floor; and after the car has started, if a passenger called the fourth floor, then the switch for the fourth floor would be moved, uncovering the numeral 4, and when the car arrived at the fourth floor, it would automatically stop, this control mechanism for starting the car being within the car itself and being a part of the master control switch. In this patent the drawings which I have referred to show the master control switch with the manual starting and the automatic pre-registered stopping within the car itself. There is also a directional switch within the car, being shown at Fig. 15, sheet 5, of the drawing, wherein there is a direction control switch, which when in neutral position, leaves the main circuit open. When thrown to the left covering contact 128, it sets up the combination for the downward travel of the car, and when it is shifted to the right to cover contact 130, the operator manually sets up the circuits for the upward travel of the car. In addi-

(Testimony of William A. Doble)

tion to this control entirely within the car itself by the master control switch, the specification states, page 1, beginning at line 29:

"Another object of the invention is the provision of an improved control box having means for operation by an employee upon one floor of a packinghouse or the like, in which freight elevators are more especially adapted for use, whereby said employee may send the elevator car to any other desired floor, and vice versa."

And on page 3, commencing with line 3:

"However, the controlling box or casing may be constructed to accommodate a greater or less number of controlling levers, and their cooperating parts, so that the controlling mechanism may be used on an elevator of a larger or smaller building."

And, starting with line 15:

"Therefore, if it is desired that the elevator car, upon ascending, should be stopped at the second and third floors, the controlling levers having the cover plates (which cover the numerals 'two and three') are respectively pulled downwardly, thereby uncovering said numerals 'two and three,' which discloses the fact that the car is to be stopped at said floors, previous to operating said levers, it is assumed that the car is at the first floor, therefore the lever having the plate (which covers the numeral 'one') is down, and the numeral 'one' is uncovered."

"After actuating the levers corresponding to the second and third floors, the lever corresponding to the first floor is pushed upwardly, in order to cover the numeral 'one', as a result of which the elevator car will start to ascend."

(Testimony of William A. Doble)

Beginning with line 116—

"By this form of mechanism for controlling an elevator car, the operator thereof may handle the freight thereon and arrange the freight to be put off at the respective floors."

And on page 5, line 105, and reading it for descriptive purposes only:

"In combination with a movable body having a guide therefor—" (T. 1221)

Claims 2, 4 and 6 explains the operation in a few words. These patents were selected from and are numbered in compliance with the request to pick out the ones that were the most pertinent. I did not leave out any that I thought was pertinent.

I understand the disclosures of the Parker patent in suit. That patent does not disclose a system or means that is operative in my opinion. From the teachings and disclosures of the Parker patent, an elevator built in accordance therewith would not be a practical operative elevator. (T. 1223)

Question objected to. Overruled. Exception.

The witness was asked whether the patent in suit discloses a system or means adapted to a so-called high-speed elevator, that is, an elevator running above 500 feet per minute. Objected to as leading, as suggesting the answer sought, incompetent, irrelevant and immaterial. Objection overruled. Exception.

The witness answered—no, it does not. An elevator constructed in accordance with the teachings and disclosures of the Parker patent would be inoperative at any such speeds, and would be very dangerous both as to

(Testimony of William A. Doble)

destruction of the apparatus itself and dangerous as to the effect on the passengers. (T. 1225)

The witness—I am reading from notes. I am reading from the drawing of the patent. I have before me the figure of the H. F. Parker reissue patent No. 16,297, reissued March 23, 1926, entitled, "Control for Electric Elevators," signed by Humphrey F. Parker, Inventor, by Walter F. Bradley, Attorney.

The patent in suit does not disclose a system or means adapted for use with a bank of elevators. The disclosures and teachings of the Parker patent limit the construction to a single elevator, and would require a complete reorganization to adapt it for use in a bank of elevators. (T. 1226)

In an elevator constructed in accordance with the drawings and disclosures of the Parker patent in suit, upon actuating a down hall button an up-traveling car would stop in response to the down hall button, and if the up button was pushed or actuated at any floor and the car was passing in a downward direction, the car would stop in response to the up button, that is, the downwardly traveling car would stop in response to the actuation of an up button at any floor. (T. 1226-1227)

That is based on an understanding that the patent discloses that those two rings g and g′ are electrically connected by a single electric brush 34. As to what the patent discloses to me as an engineer and expert as to the mode of operation and arrangement of the floor selector S, the floor selector S carries an up and down contact, representing each floor, that is, there is a pair of contacts for each floor. These contacts are radially

(Testimony of William A. Doble)

positioned so as to be bridged by the single electric switch brush 34. There is also a contact ring g' and g, so that all of these contacts are bridged as the switch brush of the selector passes each floor, and so that all of the controlling circuits of the secondary control are interconnected. (T. 1228)

Q Is there any mechanism disclosed in the patent in suit responsive to the stop switches at the floor landings, that is operative only when the car is traveling in one direction?

MR. LANE: That is objected to as leading and suggestive.

A No. This Parker drawing, which is very complete and clear, shows that irrespective of whether an up or a down push-button was actuated at a floor the car would stop at that floor, regardless of which direction it was traveling in. (T. 1228)

As to whether I find any disclosure in the patent that the floor selector shall be so formed or arranged as to avoid the up and down circuits in the floor selector being energized at the same time, in referring to that brush, it is referred to throughout the specifications as the brush 34 on the switch plate S, and that is the language used throughout the specification, referring always to "the brush 34". It will be noted from the Parker specifications, which read directly on the drawing of the Parker patent, that the circuits and parts for upward movement of the car are marked with a symbol number, and all of the parts for the downward movement of the car or its control are shown complete in the drawing and designated by the prime mark.

(Testimony of William A. Doble)

The witness was asked if in 1921, having the drawings and specifications of the Parker patent before him, he would build an elevator with the rings g and g′ bridged at all times by the arm 34. The witness answered—I would have followed the teachings of the patent and would have built those two parts in electrical contact.

(T. 1230)

The witness was asked—Assuming that you discovered that a structure built in accordance with the drawing of the Parker patent would have the up button stopping the down cars and vice versa, and if you analyzed the structure and found that the up and down circuits must be separated in the floor selector S, could you have incorporated an operative arrangement to accomplish that, from the disclosures of the Parker patent and your engineering skill?

The Master asked the witness to answer Yes or No.

The witness stated—I can't answer it that way, your Honor. For instance, the separation of the circuits after I discovered it or it was demonstrated in the testing of the apparatus as to how it would work—for a mere separation of those, yes. But when it comes to working them out to bring about a successfully operating elevator, it is a different proposition. (T. 1234)

As to what difficulty would remain in the operation of the system, the witness answered:

The working of those contacts so as to insure the stopping of the elevator at the floor level, both in the upward travel of the elevator and the downward travel of the elevator. We know it is common knowledge that elevators are subjected to different loads, and travel at

(Testimony of William A. Doble)

varying speed. For instance, if you are running through a distance of five or six floors, the elevator is traveling at one speed, but running from floor to floor the elevator is traveling at another speed, and then it is affected by the difference in load carried in the elevator.

The Parker disclosures are not sufficient to enable me to construct an operative elevator meeting those systems by the employment of my skill as an engineer. Parker disclosures and teachings would be of no benefit at all. They would be a detriment. To meet those conditions it would be better to start out de novo. There are no teachings in the Parker patent that would guide anybody.

The Parker patent does not disclose means or switches that operate to stop the car regardless of the position of the car when the switches are operated or the relative order in which the various switches are operated. I have a diagram that illustrates that. (T. 1235)

Referring to the diagram, marked defendants' Exhibit W for identification, No. 5 would be marked Exhibit W, No. 4 Exhibit V, and No. 6 Exhibit Y, for identification. (T. 1236)

Referring to defendants' Exhibit W for identification it shows a circuit, showing why the car will stop at each floor, whether an up or down push-button has been pressed, irrespective of the direction of elevator travel. The positive circuits are in red, and the negative in green, or the plus-minus, excepting where the positive changes at some coil, and then the line from that to the negative is in green, so as to make it clear. In the diagram the parts of the mechanism are colored in yellow. Assuming the car to have been started upwardly, the switch arm

(Testimony of William A. Doble)

3 or the control arm 3 brings the switch arm 4 into position so that its armature 34 would contact with the retaining magnet 31, and the bridge 9, *briging* the contacts 10 and 11. The switch arm 4 is shown in yellow, with its armature 34 in contact with the retaining magnet 31. I have not shown any other circuits than just the particular ones under discussion. The position of the switch arm would therefore follow the red from the plus line 12, through 14, contacts 10 and 11 being bridged by 9, and through the magnetizing coil 31, through the green line 33, to the minus sign. That energized the retaining magnet to hold the switch arm 4 in contact bridging position in opposition to the effect of the spring 6. (T. 1237)

THE MASTER: That shows circuits that would be set up that cause the car to stop at each floor, whether an up or down push-button has been pressed, irrespective of the direction of elevator travel.

A—Yes. The lever was retained by the retaining magnet 32. That depends on the fact that the up and down circuits in the floor selector S are connected together; bridged together.

The same thing applies to Exhibit V.

Exhibit Y shows the circuits that are set up in the Parker system whereby a hall push button would be reset when the car travels past the floor in a direction opposite to that indicated by the push button. That does not depend on the same thing. It does not depend on the up and down circuits in the floor selector being in contact with each other.

(Testimony of William A. Doble)

This diagram shows the basis for my answer to the preceding question, wherein I stated that these buttons would not operate in the proper order, regardless of the order in which they were set and regardless of the position of the car at the time of the setting.

Exhibit Y shows the circuits which reset the floor buttons no matter which direction the car is moved, but that has not anything to do with the electrical connections between g and g'. For instance, our wires are hot following the red line. Starting with the plus main on the left-hand side of the diagram, being conductor 12, the lines would then be hot following the red line from 12 through n2, through the reset coil of the second-floor down push-button, through the post k2', the switch j2, the contact l^2, the wire o^2, through a back contact on the car push-button, and then by the wire h^2 to the contact on the floor selector f^2. When the switch arm 34 passed over the contact f^2, it would bridge that circuit to the ring g'. They are both for downward travel. That would set up a circuit there. (T. 1240)

That is assuming that the car is going up, your Honor. And in going up, as it passed the second floor the switch arm 34 would bridge the contact f^2, and the contact ring g', which is connected to the negative through the wire 36' the magnet coil 31', and the wire 38', to the line 13, or negative side of the circuit. Therefore, as soon as that brush 34 closed that circuit, it would complete a circuit from the positive 12, through the reset coil of the floor switch, to the negative 13, and thereby that coil would be energized and the switch reset. And that has no connection whatsoever with any divisions of the circuit.

(Testimony of William A. Doble)

THE MASTER: That is, this brush 34 and the contact f^2 and the contact $f^{2'}$ are in the same electrical circuit when the arm is over in that direction?

A No, your Honor. I am leaving out any thought of f2 or the contact ring g.

THE MASTER: I see. Ring g' and $f^{2'}$—

MR. L. S. LYON: We are assuming the up circuit is not completed in the selector at all; that it is just the down circuit. (T. 1241)

Defendants' Exhibits V, W and Y offered and received in evidence.

VOLUME 10.

(T. 1243)

LOS ANGELES, CALIFORNIA, SATURDAY, APRIL 13, 1929.

WILLIAM A. DOBLE.

Direct examination resumed by Mr. L. S. Lyon.

(T. 1248)

Referring to the operation of the car where the starter at the main floor signals the car to pass push-button signals that have been set up to stop the car, that could be accomplished in the Parker disclosure.

The operator would hold the lever of the master control switch over in starting position, and then the car would go straight through. For instance, if it was at the top floor it would make a straight run to the first floor. Of course, the Parker patent doesn't show that signaling from the start.

(Testimony of William A. Doble)

Where the starter signals the car by floors that passengers have signaled they want the car to stop, it would be necessary for practical operation in equipment that the buttons remain set for the passengers to stop the car the next time it passes, only one car, or the next car that passes if there be more than one car. (T. 1249)

Witness was asked to explain to the Master by means of Exhibit Y whether or not the buttons at the halls remain set or would be reset by a by-passing of the car past the buttons in such an operation.

Witness answered: In such an operation all of the buttons that had been actuated by waiting passengers would be reset as the (T. 1249)
car passed the landing, so that there would be no signal remaining to stop the car.

Referring to Exhibit Y, in that case the switch arm, assuming we are going up, the switch arm 4 would be retained in circuit-closing position, and as the car passed the floor—therefore the car couldn't stop in response to the signal from the floor, but in passing the floor the contact brush 34 of the switch-plate S would bridge the circuits, which would set up a return circuit, and that would energize the reset solenoids and reset them.
(T. 1250)

That would be indifferent as to which direction the car was traveling.

There is no functional relation between the hall stopping buttons and the car stopping buttons in the arrangement and operation disclosed in the patent in suit.

What I mean by that is this: that if the elevator was equipped with hall stop buttons and the master control

(Testimony of William A. Doble)

switch within the car, the actuation of the hall switch button and its relationship with the floor selector and the master control switch would be the same, and not affected in any practical way by the elimination of the buttons within the car; and, conversely, if the hall buttons were not installed or not used, the buttons in the car would perform their functions. There is no functional relationship between the buttons in the hall and buttons in the car. (T. 1251)

That is pointed out in the patent. Referring to page 3 of the specifications of the patent in suit, commencing with line 59: (T. 1251)

"It will be understood, that the invention would include the use of such floor buttons when the car buttons were omitted, if such an arrangement should be desired, and vice versa."

And the disclosures of the patent teach that.

As to whether any further examination of this witness concerning the Parker patent was desirable, the Master stated that he though he understood the Parker patent fairly well. (T. 1252)

CROSS-EXAMINATION by Mr. Lane.

I have selected from the 45 patents referred to by the defendant those which I consider most pertinent to the Parker patent.

Where I found a number of patents which all disclosed the same general features, I took one only so as to avoid cumulation.

The witness was asked which one of the 15 patents that he had referred to most closely approaches the structure in all its details of the Parker patent.

(Testimony of William A. Doble)

Objected to as a question for the Court.

Objection overruled.

Exception. (T. 1253)

Witness answered: I would not select the patents in that way. (T. 1253)

Witness was then requested to pick out one that he considered the closest to the disclosure of the Parker patent.

Objection.

Overruled.

Witness answered: No, I would not select the patents in that way.

Witness was then asked if there was any one patent of the series of fifteen that he had referred to that is any nearer the Parker patent than any other. (T. 1254)

Objected to.

Overruled.

Witness stated: No, I would not select such a patent, for the reason that they are all pertinent to the teachings and disclosure of the Parker patent. (T. 1255)

As to which one patent of those I have referred to shows a structure in which the car can be started only from within the car and can be stopped automatically by initiating a button within the car or from the landing, I would say Defendants' Exhibit X-1. (T. 1256)

That is a hydraulic operated elevator.

That elevator is designed to be started and stopped by rotating the starting lever in either direction, which is in the car, and that operates the control rope. (T. 1256)

Only one stop control can be set at a time in that device; only one floor at a time. (T. 1257)

(Testimony of William A. Doble)

The operator must push another stop control, after making a stop, to make a second stop.

The actuation of one push-button will reset the push-button that has already been actuated.

When you push one button the closing of that button releases the button previously set.

The push buttons in this structure are the parts that are marked j in Fig. 13, sheet 4, of the patent.

(T. 1258)

In the first place, you actuate the push buttons by pressing and when one push-button is pressed it is latched in and when you press a second push-button it releases the one that has been previously latched in.

The rotation of the lever y3 operates the control rope in either direction.

It takes hold of the rope physically and grabs it.

In that structure there is no hall stopping button shown.

(T. 1259)

I would not say that it would be practically impossible to connect up a structure which was operated by a hand rope for stopping from the halls. (T. 1259)

I have not made any elevators of the modern type such as were in use in office buildings previous to 1920.

I have never been connected with the manufacturing of that type of elevators at any time, but I have studied them.

I have not personally laid out any designs for such elevators at any time.

If you take the whole installation, I have not personally laid out the designs for any of the modern elevator constructions.

(Testimony of William A. Doble)

I cannot remember when I was first retained in this case.

I think it was a little over a year ago. (T. 1260)

I am paid a regular retainer for services in this case.

I think I have attended every session of this trial.

I think I have suggested questions to counsel for cross-examination of plaintiff's witnesses if there were any I thought of importance.

I have never tried to make an elevator like the Parker patent. (T. 1261)

In the Crouan structure, only one button is set at a time.

You could not set two buttons.

If more than one floor is called at a time as the passengers enter the car and the operator pushes the first button, the operator must remember the other floors before he can initiate a stop after the first stop has been made. (T. 1261)

He must then actuate the button for the next floor, and he must set the others from memory.

In the Parker system the button can be pushed at any time whether upon entering the car or any time on the up movement or down movement for separate trips.

That is the thing that is present in the Parker patent as I understand it.

The same is in Nistle and Worthen.

If two passengers enter the Crouan elevator and both call their floors, then the operator would set the button for the first floor in the order of travel of the elevator, and after the elevator is stopped at that floor the opening of the car door resets that button, and then the operator

(Testimony of William A. Doble)

would set or actuate the button for the next floor desired, and after he had done that he would start his elevator, or he can do it while the elevator is in motion.

(T. 1263)

He must set one button first and then come to a stop. He cannot set the buttons for a series of floors and cause the stopping of the car at the series of floors without resetting the buttons as he goes along.

The passengers at the landings have no means in Crouan whatever of causing the car automatically to stop at the landing while it is moving up or down.

(T. 1264)

No such means are shown in the patent. That is confined to the landing. (T. 1264)

No electrical apparatus is shown in the Crouan patent. It is an entirely old-fashioned rope-controlled elevator.

Witness was asked what other patent, if any, that he had discussed shows any structure by which the car may be started only from within the car and automatically stopped from the car or from any given landing by initiating any one of a series of buttons in the car or initiating a button at any given landing for stopping in either the up or down direction. (T. 1265)

Witness answered: As I understand your question I would refer you to Defendant's Exhibit X-6. (T. 1266)

That is the patent to Onglev.

As to what one patent of those that I have referred to shows a structure where the car may be started only from within the car, but may be stopped automatically by initiating the stopping from within the car or from the landing, that is, may be stopped from both places, I

(Testimony of William A. Doble)

have referred to Ongley as showing that structure, with the explanation that there are independent buttons on the landings which can be used for starting the car, but there is an independent circuit from each landing limited specifically to stopping the car. (T. 1267)

The contemplation of the Ongley patent is that any passenger standing at any landing may bring the car to that landing by pushing a button.

Also, that any passenger standing at a landing can cause the car to automatically stop level with the landing as the car (T. 1268)

is in motion and that is functionally unrelated to the starting circuits.

As to any other patent of the fifteen which shows the same thing inquired about, Defendants' Exhibit X-10, the patent to S. D. Strohm. (T. 1269)

There is no other patent under the strict limitations placed in the question. (T. 1270)

The only two patents of the fifteen which I found which contemplate a structure in which the car may be started only from within the car and be automatically stopped by initiating the stopping within the car and from the landing are the Ongley and Strohm patents. (T. 1271)

The Bullock and Hanson patent, Exhibit X-2, is a hand-rope actuated structure, plus other mechanism.

The car is started by pulling on a rope and it can be stopped by pulling on a rope.

The starting and stopping is operated only from within the car. (T. 1272)

(Testimony of William A. Doble)

The passenger has no control of the car from the hall other than to signal.

He has no control of the car.

There is nothing in that patent to show any signaling device from the hall at all.

There is nothing in that patent to indicate any means by (T. 1272)

which the passenger can work the car in any way so far as appears on the face of the patent. (T. 1273)

The stopping device which grabs the rope can only be set for one stop at a time.

There is nothing electrical about that structure.

There is no electrical switch described in it in any way.

The operator must pull on the rope to start it.

There is no hoisting drum or braking mechanism shown in the patent in any way. (T. 1274)

The patent does not show the hoisting mechanism, that is, outside of the hoisting rope.

Witness was asked when he first saw and examined any braking mechanism by which the elevator could be automatically self-leveled. (T. 1277)

Witness answered: But the braking mechanism there —there are other elements introduced than the self-leveling. Crouan, in his patent, discloses, due to the construction of his valves, deceleration and acceleration, and, inherent in hydraulic elevators of this kind is a braking action.

As to whether that is the only one with which I am familiar, Defendants' Exhibit X-5, the patent to McFeeley, has deceleration means and braking means,

(Testimony of William A. Doble)

through the operation of the pilot valve and control valve for the elevator. (T. 1278)

Defendants' Exhibit X-6, the patent to Ongley, shows deceleration means which automatically act as the valve is brought to neutral.

Defendants' Exhibit X-9, the patent to Buffington, et al, shows deceleration and accelertation means.

The Strohm patent, Defendants' Exhibit X-10, deceleration and acceleration would be taken care of by the gradually shifting or the time element in the shifting of the valve.

Defendants' Exhibit X-12, the patent to Kammerer, an electrically controlled and operated elevator, makes special provisions for deceleration and acceleration of the car, so as to avoid shock.

Defendants' Exhibit X-13, the patent to Ihlder, shows extra fields for controlling the stopping and starting of the motor of the hoist.

The Crouan patent shows a braking mechanism in detail. That is Defendant's Exhibit X-1.

It does not show detail working drawings.

There are no detail working drawings in the patent. (T. 1279)

If you get right down to the detail working drawings, they are not included in a patent.

I would not say that most all these electrical patents are purely schematic, they are diagrammatic. (T. 1279)

Referring to the Ongley patent, there is only one button in the car for starting the car in the up direction and there is only one button in the car for starting the car in the down direction.

(Testimony of William A. Doble)

There is one button, 15, within the car for automatically stopping the car level with the floor.

Both buttons 5 and 6 are also stopping buttons within the car.

The stop buttons must be pressed in the Ongley structure in order to stop at any given floor prior to the elevator approaching that floor and while the cam on the car has not as yet arrived at the contacts attached to the wall of the hoistway, or while the cam on the car is in contact. (T. 1281)

After the contact cam O attached to the elevator has passed the contacts on the wall of the hoistway, then the button 15 can be actuated up to any time prior to the contact cam on the car passing the cams or contacts on the hoistway wall.

Witness was asked whether in order to initiate a stop in the Ongley structure after it had once been started from within the car, a person in the car must press the stopping button and hold his finger on the button until the car stops. (T. 1282)

Witness answered: If he wants to stop he presses a buton and holds it until the valves are shifted to stop the car.

He has to hold his finger on the button all the time until he gets to his stop if he desires to stop.

Witness was asked whether or not he could set the buttons in advance and take his finger off and have the car stop auto- (T. 1282)
matically in that structure. (T. 1283)

Witness answered: He could as long as he is within the stopping zone.

(Testimony of William A. Doble)

Witness was asked if when a person wants to stop in that Ongley structure, after he has started the car, puts his finger on the button, and holds it there during all the time until it comes to a stop, it will stop at the floor and within the stopping zone he must have his finger on the button all of the time during the stopping operation.

Witness answered: Not strictly.

As I have already explained, as long as he actuates that stopping button before reaching the cams attached to the hatchway or the contacts, then the car will stop level with the floor. (T. 1284)

Prior to the car approaching the third floor and within the range of decelerating time provided in the contacts on the wall of the hoistway, if a passenger wishes to stop the car by the automatic leveling he would press the button 15 and hold it in position until the car stopped. That is one way and there is another way.

Every time that anyone wants to stop at a given floor after one stop has been made, the button must be again pushed to stop at the next floor before you get to the floor. (T. 1285)

If a passenger wanted to stop at each one of the twelve floors, he must press the button before he stops at each floor, and he must push the button for each floor before he reaches that floor in order to stop at each floor. (T. 1285)

That must be operated after he has made each stop and before reaching the next stop.

Witness was asked whether there is anything in that structure by which an operator may determine in advance as to the automatic stopping at each one of a series of floors.

(Testimony of William A. Doble)

Witness answered, No. (T. 1286)

In the Ongley structure to get the car to any floor from any floor landing you can press a button for starting the car from the landing. (T. 1287)

Assuming that there is no operator in the car, who has already started for that particular floor and that the car is resting at a landing, the waiting passenger at that landing would call the car by pressing either the up or down buttons at the landing. (T. 1288)

Witness was referred to an affidavit filed by him in this case, sworn to on January 23, 1929, reading:

"The Parker reissued letters patent in suit relates to a complicated electrical apparatus and construction, and contains the total of 68 claims. It has been necessary for the preparation of the defense in this suit to examine over 100 prior patents and publications which likewise relate to complicated electrical apparatus and structures. Affiant has been engaged in analysis of said Parker reissued letters patent and said prior patents, and publications, for a period of approximately six months."

and was asked when it was that he did that.

(T. 1288)

Witness answered: Between the time I was first retained in the case and the date of the affidavit. (T. 1289)

Witness was asked if he did not state in the affidavit of January 23, 1929:

"The proposed amendments and additional defenses contained in Paragraphs 16 to 19, inclusive, are material and necessary to the proper defense of the case, and were not known nor could the same be known by the exercise of reasonable diligence prior to filing the original answer herein."

(Testimony of William A. Doble)

Objected to.

Overruled.

Witness stated: Yes, I made that statement.

Motion to strike.

Denied.

Exception. (T. 1290)

In the Ongley patent, Exhibit X-6, when the car has been started by a person pushing a button at the landing, that car will not stop at the landing where the button has been pressed until another or stopping button has been pressed at the time the car was in the stopping zone of that landing.

Assuming in the Ongley structure that a person in the car has started the car and is going up and has gotton half way between the second and third floors, and a person at the tenth floor pushes the down button, the car would respond to the button pushed at the landing and would reverse and go back down. (T. 1291)

The car would go to the bottom.

When the passenger is riding up, in the Ongley structure, and a waiting passenger has pushed a down button at the landing and the car has been reversed, and starts to go down, the car would go to the bottom. (T. 1292)

If a passenger had gotten into the Ongley car at the third floor with the intention of going up, but had done nothing after he got in the car toward starting, and a person at the sixth floor would push the down button, the car would move in response to the button that was actuated.

If five passengers had gotten into the car at the third landing and if they had not done anything or had not had

(Testimony of William A. Doble)

time to start the car or push any buttons, and a person at the tenth floor pushes the down button, the car would respond to the button pushed.

If a passenger, on the same assumption, had stepped into the car and was putting his hand on the button to go down, and a passenger at the landing pushed the up button before the passenger in the car had actually pushed the button, the car would go up. It would respond to the button that was actuated.

The only way that a person in the car could stop the car would be by pushing one of the stop buttons.

(T. 1293)

The passenger at the landing can stop the car by pushing a button for the down direction if the car is coming up.

It depends on how long he holds the button in actuated position as to whether it will reverse and send it down when the passengers had intended to go up.

(T. 1294)

If he holds the button long enough for the valve to reverse, the car will go down. If he holds it long enough for the valve to center, it will stop within the decelerating range.

If a person retained the button long enough to its actuated position, pushing a down direction button at any of the floors, it would reverse the direction of the car if the passengers in the car had pressed the up button and it was running up.

As to how long a passenger at the waiting landing has to hold his finger upon the button for moving the

(Testimony of William A. Doble)

car in the down direction, that depends upon the time element of the structure.

He does not have to hold it on during the entire time the car is moving in the direction in which the button has been pressed—just long enough to shift the valve.

If a waiting passenger pushes the up button at the landing in the Ongley structure, and does nothing else, the car moves in the up direction and it will go to the end of its travel clear to the top. (T. 1295)

At any time within the stopping zone the waiting passenger could actuate the push button 19 and that would stop the car level with that particular floor or landing.

The contact and cams on the car are at the bottom of the car so that as soon as the top of the car appeared at the floor level, he could actuate the button.

He would have to see some part of the car in order to get an accurate stopping of the car.

(T. 1296)

If the doors were so arranged that the person inside of the car or the person at the landing could not see the floor landing, he would have to make a guess at stopping. I never saw such a structure, though, and it is not in any part of the teachings of the Ongley patent.

(T. 1297)

Witness was asked whether he ever saw a structure like that shown in the Crouan patent in operation in an elevator anywhere.

Objected to as not cross-examination. Overruled.

Witness stated: I could not say yes or not. (T. 1298)

I could not say whether I have ever seen any structure in use that corresponds to the Crouan patent.

(Testimony of William A. Doble)

Mr. Lyon objected, stating "We haven't pleaded any prior users here, and we haven't called this witness to testify to any." (T. 1299)

I have no distinct recollection of seeing the device, but I have ridden in a great many elevators for years. I have an indistinct recollection of elevators of that type in San Francisco in the early days. (T. 1300)

I have a hazy recollection of such an elevator that was operated in a building on Montgomery Street, in San Francisco, which I think was located on the east side of the street, and either between Bush and Pine Streets or Pine and California Streets, but it is a good many years ago. It was long before the San Francisco earthquake. As I remember it, there were several buildings that had elevators of this type.

(T. 1301)

Witness was asked whether he had ever seen the internal construction.

Objected to.

Objection overruled.

Exception. (T. 1302)

My recollection is that of the manual starting device and after the operator started it he pushed a button and it stopped automatically at the floor.

All that I saw was what I saw from the inside of the cab.

I could not say whether I ever saw a structure corresponding to that shown and described in the Ongley patent in actual operation. (T. 1303)

If I remember correctly, although it was a good many years ago, there was a Strohm elevator in the Bullett

(Testimony of William A. Doble)

Building in Philadelphia, where there was a restaurant on the top floor, but my recollections on those things are very hazy.

I cannot answer specifically, but my recollection is that that elevator was in that building in Philadelphia.

I did not make any investigation to ascertain whether there were any of the structures shown in any of these patents in operation anywhere.

I confined my work to the study of the patents as patent disclosures and made no search or study of the commercial installation.

(T. 1304)

As to whether any of the structures shown or described were actually used in elevator installations except the Ward-Leonard patent, I was a member of the International Jury of Awards at the St. Louis Exposition in Machinery Hall, and in that building was exhibited a push-button elevator similar to Defendants' Exhibit X-13, that is, as I remember it, Fig. 1. And I had under my group hoisting mechanism, elevators, cranes, weighing machines, gages, and instruments of precision. And, as closely as I can recall at this time, the elevator installed in that building operated substantially in accordance with the Ihlder patent, Defendants' Exhibit X-13, excepting that it traveled between two floors only. I inspected the elevator at the time. (T. 1306)

An elevator control similar to Defendants' Exhibit X-2 was used in San Francisco in the early days. (T. 1307)

Referring to Defendants' Exhibit X-5, I have seen elevators that had that type of master control switch within the car, but I made no inspection of the operating

(Testimony of William A. Doble)

mechanism connected therewith. However, the operation of the elevator was as pointed out in the McFeeley description and drawings, except that I can't say about the details. That is judged from riding in the elevator.

Referring to Defendants' Exhibit X-11, the Smalley et al signal control system, I have been familiar with that for a number of years.

Those are the only ones that I can recall at this time.

I have ridden in many hundreds of elevators and have been interested in elevators for a good many years, but (T. 1307)

I cannot at this time recite all the elevators and how they operated that I have ridden in and examined. (T. 1308)

Referring to the elevator I saw at St. Louis, if the car was on the bottom landing and a person on the second landing pushed a button at the second landing, that car would be brought to the second landing providing the car gate and hoistway door were closed, but if they were open the elevator would not respond.

The car would not respond until the door was closed, closing the safety circuit.

In the Nickerson patent, Exhibit X-3, May 14, 1889, the stopping mechanism of that structure can be set for only one floor at a time. (T. 1309)

It cannot be stopped by passengers waiting at the landings.

There are no push-buttons shown as being positioned at the landings in that patent.

There is a handle of a switch in it and that is moved downwardly to start the car upwardly and moved up-

(Testimony of William A. Doble)

wardly to start the car downwardly, and then set at a predetermined floor. There are two of those cam-controlled switches, one for up direction and one for down direction.

There is one handle for operating the two contact cams which have lands on them for each floor. (T. 1310)

The operator must have some mental re-action to each floor called.

(T. 1310)

The human element of stopping is not eliminated by simply pressing a series of buttons. It is eliminated in that it is strictly automatic as to stopping at a predetermined floor, that is, one floor at a time.

If the operator were going up and were going to stop at the second floor, he could move the control handle of the master control switch for the automatic stopping at the second floor. Then when he got ready to move on he would move his handle, and that would close the circuit and start the car upwardly again, and the car would automatically stop at the third floor, and so on.

He would repeat that operation for each floor that he desired to stop at, and in doing so he would have to move his handle over to the particular point indicated beneath the handle, that is, if he wanted to go to the third floor he would slide it around to the third floor, and then the car would stop. (T. 1311)

Then he would slide it around to the fourth floor and the car would stop.

Then he would slide it around to the tenth floor and the car would stop at each floor.

In each instance he would have to swing his car switch in order to stop at the subsequent floors.

(Testimony of William A. Doble)

The automatic control is actuated by a series of cams on the wall of the hoistway.

It is set up by the master control switch; the action is due to the cams on the wall of the hoistway.

The moving of the handle initiates the starting and it sets up the combination which is completed when the cam at that particular floor contacts with the end of the lever and opens the circuit.

One handle by a series of switches initiates all that work. The handle has a dual function.

In that structure the operator can pass up any passenger waiting at any landing.

The car is strictly under the control and direction of the operator and is not under the control of the passengers from the landings. (T. 1313)

In that structure the motor is not shown; nothing but the relays.

No braking mechanism is shown in that patent.

The relays and the master control switch are shown.

The cam switches and wiring, the construction of the master control switch, the direction control and floor control cams, the up and down relays or direction switches, electric cables, the cams on the walls of the hoistway for automatically stopping the car in either upward or downward direction, are shown.

The witness was asked whether in his opinion as an engineer he could, under the showing of the Nickerson patent, make a satisfactory elevator for accomplishing the purposes that are accomplished by the defendants' structure.

Mr. L. S. Lyon: We object to that as outside the direct examination of the witness. We relied on the

(Testimony of William A. Doble)

presumptive operativeness of these patents, as established by their grant.

Mr. Lane: I will withdraw the question.

(T. 1314)

The source of electricity is indicated.

Referring to the Nickerson patent, Exhibit X-4, May 14, 1889, no push-buttons are shown in the hall.

Nothing is shown in the patent by which the car may be stopped from the landing as distinguished from the car. It may be stopped from the penthouse, where the relays are which would stop the car.

There is nothing at the landing by which the waiting passenger can automatically bring the car to a stop at any floor. (T. 1315)

In the Nickerson device, the operator selects one stop at a time, one floor at a time for stopping.

It will stop at any floor that has been pressed.

You set the switch for the floor you wish to go to and the car responds and goes to that particular floor and stops.

The operator would set it up to a different place in order to go to another floor after the stop has been made. (T. 1316)

The operator would pass up any floors between the floor he was at and the one for which he had set his automatic stopping device and would pass up any passengers that were waiting at a landing if he did nothing else.

If an operator had started at the first floor and there were passengers at each of the nine floors, and the apparatus was set to move to the tenth floor, he would pass everybody else up and would pass by the floors.

(Testimony of William A. Doble)

VOLUME 11.

LOS ANGELES, CALIFORNIA, MONDAY, APRIL 15, 1929.

(T. 1318)

The Master: Let the Reporter's Transcript show that at one o'clock Saturday afternoon, the 13th of April, accompanied by Mr. Richard Lyon, Mr. DeCamp, Mr. Lane, Mr. Loftus, Mr. Bradley, and Mr. Crabbe, the Master inspected the installation of the Otis Company at the Merchants National Bank Building, Seventh and Spring Streets, also an installation in a building at Seventh and Main Streets, the defendants' installation of one elevator in the Petroleum Securities Building, and the installation in the Pacific Finance Building.

CROSS-EXAMINATION of William A. Doble, continued by Mr. Lane.

In the Nickerson patent dated May 14, 1889, Exhibit X-4, the operator has to set the index at each floor in order to stop at that floor, and that must be done one floor at a time. (T. 1319)

The operator would set the index lever by turning the hand wheel K3 for each floor as he wished to stop at the floor.

He has to do it successively, for one floor, and then for the next floor, and so on until he gets to the top.

(T. 1320)

The McFeeley patent, May 28, 1889, is hydraulically operated and electrically operated.

(Testimony of William A. Doble)

In that structure there are no push-buttons at any landings.

(T. 1320)

The McFeeley patent does not show any push-buttons at the landings, and the stopping mechanism can be set for only one floor at a time. (T. 1321)

After the operator stops at one floor he must remember each floor that has been called by the passengers entering the car as the car progresses up in order to stop at the various floors that have been called.

The operator moves the floor switch 9 over step by step for the different floors and how much he has to remember depends upon when the passengers call the floors.

The Coyle patent of 1892 shows a hydraulically-operated, electrically-controlled elevator; that is, the power means for handling the elevator is hydraulic as shown in the drawings but it is not limited to that in the specifications.

If persons come out from the car at any landing when the car door is open, and persons at two other landings then push buttons at these floor landings simultaneously, one above and one below, the car would not move.

(T. 1322)

It would stop if the doors were open.

The control circuits are cut when the doors are open.

When a passenger is in the car, the car is under the exclusive control of the passenger or operator within the car.

When a car is occupied, a waiting passenger at a landing has no control over the car.

(Testimony of William A. Doble)

(T. 1322)

As to whether that is due to the fact that there is a tilting platform in the car so that when the operator steps on that platform it tilts slightly, sets up contacts, and prevents the operation of any of the mechanism for stopping the car in the hall, I would say it opens the circuit and that prevents anyone at the landing from stopping the car. (T. 1323)

When no one is in the car the car can be started from any landing and be brought to any landing by passengers at landings pushing a button.

There is only one button at each landing and that same button controls both the starting and stopping.

It has a double function. It initiates starting and sets up a combination for automatically stopping the elevator at the floor level.

In the Coyle structure, if there is an operator within the car it cannot be started from the landing.

It can be started from either within the car or by a person at the landing.

A waiting passenger at the landing cannot stop the car which has been previously started by a person in the car or from any landing. (T. 1324)

Assuming that the car is at the first floor and empty, if a person at the seventh floor pushes a button and holds the button closed, and another person pushes the button at the fourth floor, while the seventh floor button is held closed, the car goes to the floor where the first button was actuated and passes by any other floors. (T. 1324)

Those buttons would have no control over the car.

(Testimony of William A. Doble)

If a person at the twentieth floor gets into the car and goes to the first floor, the nineteenth floor passenger would have to wait until the passenger gets out at the first floor before the 19th floor passenger can call the car to him and go to the 20th floor. The car will respond to the first button actuated and would go to the destination called for and pass up other floors. (T. 1325)

Any passenger might be compelled to wait an indefinite period of time at any landing in that structure if, as in the instance just related, the car has gone to the bottom floor and another passenger steps in before the passenger at the 19th floor resets his button. He would have to wait until the person in the car got through the operation. (T. 1326)

Referring to Buffington and Jones, of 1894, in that structure the switch cannot be set in the car to stop at more than one floor.

You can only set one control stop at a time.

The automatic stopping of the car level with the floor is one floor at a time and the switch has to be set again to start the car to another floor and stop it at the other floor.

No push-buttons at the landings are shown in that structure and none are described. (T. 1327)

A waiting passenger cannot control the car in any way from the landing. (T. 1327)

There is no control outside of the car which is not actuated from within the car.

In the Buffington and Jones structure the operator must set the switch accurately in the car for causing it to stop

(Testimony of William A. Doble)

at the floor selected, that is, he must push it to the number of the floor desired.

If he wanted to go to the third floor he would set the automatic stopping switch at the button marked 3, and so for the fourth floor, and so on. (T. 1328)

In that structure the motor is only shown diagrammatically.

A brake is shown there.

That is shown diagrammatically. It shows that it is applied by compressed air and applied by a weight and that it has a hand brake.

The drawings of the patent are sufficiently definite to show the type of brake so that an engineer could provide a brake as called for in the patent. I could do it.

Referring to the Strohm patent of 1896, if the rope has been pulled in the car so that the car is started and has come to a stop at a given floor, the car stays at the floor so long as the doors are open. (T. 1329)

At the shutting of the doors by the passenger outside of the landing, with the parts in the position just indicated, the car will start after the door is fully closed and unless the passenger in the car has changed the control. (T. 1329)

If the passenger has gotten out of the elevator and closed the door from the outside, and there is no one on the inside, then the car will start up following the direction given to it by the setting of the control rope.

If the car has been started by the rope in the car and has been brought to a stop by a push-button at the landing, and the door is opened and the passenger steps out without doing anything else, and then the passenger closes

(Testimony of William A. Doble)

the landing door, the car will start on and continue running unless some other push-button has been pushed, but he must also close the car door. (T. 1330)

He must close the car door and the landing door.

If the switch inside is closed and the doors are closed, no matter whether there is a passenger in the car or not, the car will run.

It runs up to the top and then reverses and goes to the bottom. Figure 2 shows an electric switch.

It can be started either way.

The operation is the same whether it is operated by a switch in the car or by the hand rope in the car.

In the Strohm structure the operator must start and stop the car manually if he desires to stop it solely from within the car, either by actuating the control rope or actuating the electric control switch. (T. 1331)

The stopping control within the car is similar to the ordinary manual control elevator in general. It is the same general proposition as the manually-controlled elevators except for a little different arrangement. (T. 1332)

There is a control rope within the car.

There are present whatever difficulties are inherent in the ordinary manually-controlled operation except that some might be a little more satisfactory than others. (T. 1333)

The control is electrical and therefore much quicker and different than where the main valves are operated by the control rope.

Electrical controls were known before 1896. (T. 1335)

(Testimony of William A. Doble)

In the Strohm structure both the car doors and the hoistway doors must be closed before the car will move. The opening of the door would stop the movement of the elevator.

Each button at the landing stops the car running in either direction. There are two buttons at each floor.

(T. 1336)

No landing button which controls the stopping of the car only when traveling in the up direction is shown in the diagram, and no landing button which controls the stopping of the car only when traveling in the down direction is shown.

There are two buttons. It doesn't show that one is for going up and one for going down, excepting you contemplate the use of two cams at the top of the car which are controlled by a rope.

(T. 1336)

There are two hand-controlled automatic stopping cams on the car that are arranged with ropes so that they can be disconnected or put out of actuation from within the car, and one may be used for going up and one may be used for going down.

Not as specifically shown are there two buttons at each landing, one for stopping a car while traveling in the up direction and another for stopping a car while traveling in the down direction, in the Strohm structure.

(T. 1337)

But the fact that there are two buttons there would indicate to any engineer that one was intended for up and the other for down. Otherwise there would be no utility in having them.

(Testimony of William A. Doble)

There would be no difficulty as an engineer in reconstructing that part of it to get results.

It would not be a reconstruction. I would change merely the way it is wired up.

As to whether in the Strohm structure there is anything shown to restore the switches set up by the car switch in starting to bring them back to normal position for restarting when the car is stopped, there is a manual starting control.

Assuming that a person in the car pulls the rope or throws the switch to start the car, there is nothing which restores the circuit so that all the operator has to do is move to a starting position, except at the top and bottom of travel. (T. 1338)

(T. 1338)

This stopping apparatus is not reset after the stop at the floor and before the car reaches either the top or the bottom.

When it reaches the top or bottom it simply reverses the switch, so that there is no real stopping of the car. It simply brings it up to the top and then immediately reverses and goes back.

As to whether there is any other adjustment shown, it shows these blocks 76, which is a common expedient for that purpose, and which were commonly used to stop elevators at the ends of travel automatically. (T. 1339)

Referring to the specifications of that patent, line 34, page 1, reads:

"By means of my invention also the elevator can be automatically stopped at any one of the landings by a person thereat without the need of an operator in the

(Testimony of William A. Doble)

car, so that the elevator will thereby be practically an automatic car."

Assuming that you have no operator but the building manager has stepped into the car in the morning by opening the door and gate, and pulled the rope or thrown the switch and the car has started to run so that it runs continously from top to bottom, while it is thus running it can be stopped by any passenger from outside the car by pushing the button at the landing. (T. 1340)

If a passenger wanted to use that car he could upon the landing door and gate. Then when he steps into the car after he closes the landing door and gate of the car, (T. 1340)

the car immediately starts without his doing anything.

That is one provision.

He will stop the car by the rope or by the electric switch. (T. 1341)

To stop the car he holds on to the rope and that moves the rope relative to its former position.

In such an operation as is involved by the Strohm elevator, I would say that was automatic stopping from the hall. (T. 1342)

It is manually stopped from inside the car.

There is nothing in the Strohm structure by which the operator in the car can initiate the automatic stopping of the car at any landing. (T. 1343)

Referring to the Smalley patent, there is no means there shown for starting the car.

The means for stopping the car is signal control.

That has nothing to do with the starting and stopping of the car except that it is stopped by the operator through the operator responding to the signal.

(Testimony of William A. Doble)

Referring to the Kammerer patent of 1901:

You make one floor selection at a time.

The operator may not set up successive stops without upsetting them before he gets to stop at the various floors at which they have been set.

(T. 1344)

The whole control of the lift cage in that structure is affected by the handle C, the master switch in the car; that is, the combination set up by the completion of the action depends upon the cams on the wall of the hoistway. (T. 1345)

I agree with what the patent says on page 2, line 73 of the specifications, that

"The whole controlling of the lift cage—that is to say, the starting, the stopping at certain floors, and the reversal of movement of the cage, is affected by the handle C."

In this structure the car cannot be stopped by waiting passengers at any floor.

In this structure the operator sets the switch for the floor at which he desires the car to come to rest automatically. (T. 1346)

There are no provisions outside of the hoistway for stopping the car.

The car can be stopped by the operator within the car.

When once the master switch in the car has been set for any given floor, the car cannot be stopped until the floor has been reached in the Kammerer device.

Once the master switch has been set for a given floor from within the car, the car cannot be stopped from any landing prior to the arrival of the car at the floor for

(Testimony of William A. Doble)

which it has been set. There are no stopping provisions indicated for the landings.

(T. 1347)

As to whether the operator who has set the car to a given floor, and who is latched in, can operate the car switch to stop at any floor previous to the one which has been set, I would say yes, he can release the latch and then the switch would return automatically to neutral.

In that structure no motor is shown and no brake mechanism is detailed.

Referring to the Ihlder patent of October 7, 1902, there is one push-button at each landing.

In that structure the car may be started by a person at the landing pushing a button.

The car may also be started from inside the car.

The car in that structure may be brought from any landing to any other landing by a person at any other landing.

There is a series of buttons for starting the car from inside the car and also for stopping, and only one of those is operated at a time. (T. 1348)

In the structure you have as many different start controls as you have floors to stop at.

There is a push-button for each floor. (T. 1349)

As to whether the car can be sent to any floor by a person not in the car, I would say No if I understand your question correctly.

(T. 1349)

Referring to the specifications on page 1, line 90, the patentee states:

(Testimony of William A. Doble)

"The invention is specifically adapted for use in connection with dumb-waiters, freight elevators, or other moving vehicles on which the operator does not ride, but which is desired to call or send to any particular floor or position and have it automatically stopped there regardless of its prior position."

Whether I agree with the statement there that the car may be sent to any floor by the operator, I would say that it cannot as disclosed in Figure 1. That is a modification where the controls would have to be changed.

It cannot in any other figures.

When a car has been started by a person in the car at the sixth floor, say, or any other floor, it cannot be stopped by persons pushing buttons at any other floor.

In that structure the car cannot be stopped from any other landing when a button has been pushed for bringing the car to a given floor. (T. 1350)

The stops are set up one at a time.

That is true of those inside of the car, and likewise from the landing.

Turning to the Nistle patent of 1903, there is no push-button for stopping the car from the halls so that the waiting passenger would not be passed by.

(T. 1350)

There are no electrical devices of any kind shown or described in that patent.

The patentee there shows and describes an invention wherein the movements of the elevator car are controlled by a cable extending from the top to the bottom of the shaft.

The control rope is used for the remote control.

(Testimony of William A. Doble)

The rope is not strictly stationary, because it is movable, enough to actuate the valves.

There is not a continuous movement of the rope like the rope on a hoist.

There are buttons on the rope which must be engaged by jaws in order to stop the car. (T. 1351)

The jaws must actuate the remote control rope.

As to whether that structure would be satisfactory for high-speed elevators, at the time of the patent it was a high-speed elevator but it would not be a high-speed elevator in the sense of our present-day practice.

(T. 1352)

I should not install it for 600 feet a minute elevators.

(T. 1353)

I studied the file wrapper of the Parker application.

Referring now to the Worthen patent, you start from each floor by actuating a control switch for that floor and you would actuate a different lever for each floor to start it.

(T. 1353)

You start the car from the first floor by covering up the indicator 1 and the second floor by actuating the switch to cover the symbol 2, and so on.

In that structure there is a series of indicators to indicate the stopping, that are uncovered when you set up the stops for each floor, so that when the car has been started it will come to a stop at the second floor and the operator must cover with his master switch the uncovered number at which the car is stopped, say number 2 in this instance, before the car will start again. (T. 1354)

He moves the switch which covers the number of the floor at which it has already stopped and then the car

(Testimony of William A. Doble)

starts, and that is done in each instance all the way up the building.

You have to start the car after each stop.

If the operator wanted to stop the car at another floor than that for which the stop had been set, he could stop it by exposing the number. In other words, he can set up any combination of floors at random that he wants and the car will stop automatically at each floor in its natural order.

The operator moves a separate switch handle there for each landing, so that if he had 21 floors he has to have 21 buttons to start the car with. (T. 1355)

A push-button is an ordinary switch.

I should say that this is a master car switch as shown in Worthen and the other earlier patents.

(T. 1355)

As a modification the specifications state that the control mechanism can be put on some one central floor and then actuated.

I could not say that if a car had been sent to any floor by an operator outside of the car, it could not be stopped by anyone until it arrived at that floor to which it had been sent because the details of that are not disclosed, and it merely refers to the possibility of providing a master control switch at some one floor, from which the car can be directed and controlled. And there is no statement in that that the same master control switch would not be within the car, such as is shown. (T. 1356)

As far as the teachings of the patent are concerned, the master control switch within the car is shown in detail, and the reference in the specification states the con-

(Testimony of William A. Doble)

trol switch can be mounted at one landing, from which the car can be controlled.

Witness was asked, since he had canvassed the situation pretty thoroughly both on direct and cross-examination, if he could for the benefit of the Court pick out the one structure which he thought most closely resembles the structure disclosed and described in the Parker patent.

Witness answered he could not.

There are no buttons in the hall for stopping the car shown or described in the Worthen patent other than that reference to which I referred that stations can be provided outside the car for stopping it. (T. 1357)

(T. 1357)

There are no buttons shown in the car for stopping the car by waiting passengers in the normal operation of the car. (T. 1358)

RICHARD F. LYON, called as a witness on behalf of the Defendants.

Direct examination by Mr. L. S. Lyon.

My name is Richard F. Lyon; residence Los Angeles; occupation patent attorney, associated with the firm of Lyon & Lyon.

I was associated with them in the year 1925.

I examined the original Parker patent which is in evidence here, in 1925.

Witness was asked under what circumstances.

Objected to as incompetent, irrelevant, and immaterial.

Overruled.

Exception.

In 1925, together with my father, Mr. Frederick S. Lyon, I had been advising the Llewellyn Iron Works con-

(Testimony of William A. Doble)

cerning a number of patent matters in connection with the installation of their elevators, and it was on June 26, 1925, that I had a conference with Mr. Baruch of the Llewellyn Iron Works, at which he showed me a drawing of an automatic stopping elevator, which I understood he was constructing. (T. 1359)

(T. 1359)

Mr. Baruch told me they were going to install it.

(T. 1361)

I made an examination of the Parker patent.

(T. 1362)

I was instructed to give an opinion on all United States letters patent relating to elevators to see if this installation would infringe any of them.

So immediately I made a review of our office file copies of patents on elevators.

Among the patents I found the original Parker patent.

(T. 1363)

I received the file history of the Parker patent, according to our records, on July 13, 1925.

This is a letter from C. A. Mason, our associate attorney, dated July 8, 1925, stamped with our stamp "Received July 13, 1925."

This is the letter that forwarded the file history of the Parker patent.

Offered in evidence as Defendants' Exhibit Z.

Previous to receiving the file history, at Mr. Baruch's insistence, I had rendered an opinion, after consulting with my father, on the Parker patent. That was an oral opinion.

Witness was asked what he advised him relative to the Parker patent.

(Testimony of William A. Doble)

Objected to as purely confidential matters, incompetent, irrelevant, immaterial, and a self-serving declaration. (T. 1364)

This testimony taken subject to Plaintiff's objections. (T. 1364)

The Master stated he would rule on it in his findings, if necessary.

I advised them that they did not infringe, that the structure that they intended to put in was not an infringement of the Parker patent. (T. 1365)

I can identify the structure to which this opinion referred by a number of drawings which were submitted to me on June 26, 1925.

I have the drawings before me.

They are drawings numbered 400-296 and sketches SK500-214A; SK500-214B; and SK500-214C.

I have had those in my personal possession since 1925.

I think copies of the sketches SK are in evidence, but I do not believe the other drawings are.

Four drawings offered in evidence as Defendants' Exhibits AA-1; AA-2; AA-3; and AA-4. (T. 1366)

I have looked over the drawings and have looked over the elevator of the so-called No. 4 car that the Petroleum Securities Company installed.

The last numbered drawings just put in evidence are the drawings of that elevator so far as a person can tell from inspecting the elevator, but you would have to take the wiring to pieces in order to be sure of it. (T. 1366)

Motion to strike the answers as conclusions of witness, and therefore incompetent, irrelevant, and immaterial.

(Testimony of William A. Doble)

Overruled.

Exception. (T. 1367)

Witness identifies a memorandum that he received on June 26, 1925, enclosing the four drawings just identified.

A messenger brought this memorandum to me following a conversation I had had at the Llewellyn Iron Works with Mr. Baruch on the same day.

Memorandum offered in evidence as Defendants' Exhibit BB.

Objected to as incompetent and irrelevant.

At least within a week after I received the file history of the original Parker patent I called Mr. Baruch and told him there was nothing in the file history that changed my opinion and that I was still of the opinion that he did not infringe the Parker patent. (T. 1368)

Moved to strike the answer as self-serving, incompetent, irrelevant, and immaterial.

The Master: I will reserve the ruling on it.

(T. 1368)

CROSS-EXAMINATION by Mr. Lane.

I did not write any letters concerning the matter inquired about by Mr. Baruch on the Parker patent, and I did not write any letters to anyone connected with the Llewellyn Iron Works or Mr. Baruch relating to the original Parker patent.

Witness was asked whether he said anything about the re-issue patent.

Objected to as not cross-examination and outside of the direct.

Objection sustained. (T. 1372)

(Testimony of William A. Doble)

The Master: Did you give any opinions after that relating to the scope of the Parker disclosures?

Witness stated: I gave no further opinion on the original patent.

The Master: Did you give any opinion as to the scope of the Parker reissue?

Witness stated: It is hard to answer that yes or no because the opinion was given by my father and myself in consultation, and I never wrote an opinion myself.

My father never wrote an opinion as to the original patent.

My father wrote an opinion as to the reissue patent.

(T. 1373)

The reissue was March 23, 1926. An opinion was writen either in April or May, 1926, according to my best recollection. I am not positive.

(T. 1373)

No written opinion on the original Parker patent was ever rendered and I have not been able to find any letter in which there is an opinion on the Parker patent. I have made a thorough search.

There is nothing in writing relating to the Parker patent. (T. 1374)

I did not make notes at the time or file my own notes.

The opinion that we prepared or what Mr. Baruch particularly requested from me, was an opinion as to this automatic stopping machine that he designed, and this Parker patent I found in the files as an incident to that, and he wasn't much interested in it when I showed him what it was; so we didn't write any written opinion on that, but the written opinion all dealt with the automatic stopping.

(Testimony of William A. Doble)

I made a thorough examination of the Parker patent but Mr. Baruch did not seem to be interested in any detailed opinion on it. (T. 1375)

He did not suggest purchasing the patent at that time.

He did not suggest that to me or anybody in our organization that I know of.

I did not suggest purchasing it at that time and no one in our organization that I know of did.

I do not think a further investigation will develop any notes of any kind made concerning the original patent during the Summer of 1925.

(T. 1375)

I have already looked three times, but I will look again and produce them this afternoon if I can find them.

Witness was asked if the opinion as expressed by his father said that there was danger of infringement of the Parker reissue patent.

Objected to as not cross-examination.

THE MASTER: It is difficult for me to see that there are any intervening rights or any estoppel that must have accrued and been complete at the time of the Parker reissue. (T. 1376)

THE MASTER: In 1926 were any opinions given by you or your father or any one in your office that had any bearing upon the validity or the scope of the original Parker patent? (T. 1377)

Witness answered: There was nothing in the written opinion that related particularly to the original claims. As I remember it, there was an opinion given that we didn't infringe the reissue patent.

That would include an opinion on the original claims.

(Testimony of William A. Doble)

I will get the opinion and produce it.

I think Mr. Lane has a copy of that.

MR. LANE: I have never seen it if I have.

(T. 1378)

THE MASTER: The suggestion that I made is that it is possible that an opinion written, say in 1926, or a year or so after that, would reflect the opinion that was held and possibly given verbally a year before that. You haven't changed your mind as to this original Parker patent.

A. No.

We did not write our opinion between 1925 and 1926 as to the original Parker patent.

(T. 1379)

I based my opinion that I gave in 1925 on the drawings that I have produced as Exhibits AA-1, 2, 3, and 4.

I do not believe I had seen any structure at that time other than shown in these diagrams.

We filed an application for a patent on the structure that is shown in these drawings for someone connected with the Llewellyn Iron Works.

That application illustrates and describes the structure that is shown in these blueprints. (T. 1380)

I believe we have a copy of that application in our files.

(T. 1381)

The first occasion that I had to examine the Parker original patent was when the matter was presented to us on June 26, 1925, and I gave consideration to that patent in connection with the structure that was submitted.

I was not familiar with the patent on June 26, 1925, but between then and July 13th I became as thoroughly

(Testimony of William A. Doble)

familiar with it as I could and I called Mr. Baruch's attention to it so that he was familiar with it at that time.

I showed him the patent. I do not know whether he knew how it worked.

I knew how it worked and I explained the intended operation to him.

I understood the intended operation myself plainly at that time. (T. 1382)

(T. 1383)

I first learned of the Parker reissue when Mr. Bradley, of the Otis Elevator Company, handed me a copy of the reissue patent. I think that was about April 14, 1926.

Witness was asked to produce the application filed which relates to the disclosures upon which was based his oral opinion to Mr. Baruch sometime in July 1925.

Objected to.

Mr. Lane: I refer specifically to the disclosures made by your Exhibits AA-1, 2, 3, and 4.

Objected to. (T. 1384)

Defendant objected to the production.

After discussion the witness was asked to produce the application filed on this structure disclosed in Defendants' Exhibits AA-1, 2, 3, and 4, so far as it was disclosed.

(T. 1394)

Counsel for defendants stated that the witness would not produce it. The reason is that the application is involved in impending interference proceedings with the plaintiff, and that the time for filing preliminary statements and other provisions of interference practice in the Patent Office prior to which they will not allow access to the adverse party's file has not yet terminated.

(Testimony of William A. Doble)

Mr. Lane: Then I will demand that the documents called for be produced here in the courtroom, not for my inspection, so that they may be made use of in any proper way, under the instructions of the Master. (T. 1395)

(T. 1395)

The Master: I will not require the production of them on the showing that you have made.

Exception to Plaintiff. (T. 1396)

I had a complete file of elevator patents, and I investigated the entire file as part of my preparation for my opinion on the Parker patent.

I had most of the patents that are set forth in the Answer here, but I have no record of just what patents I did and did not have. (T. 1397)

We had our associate send to us all patents on elevators dealing with automatic stopping of elevators.

I did not specifically made any investigation of the Parker original patent to ascertain the validity of that patent from all records available at the Patent Office previous to giving the opinion to Mr. Baruch.

I told him that I had not made any investigation of the validity because I thought the issue of non-infringement was sufficiently clear.

I had not made any investigation of the validity of the patent but I had made enough investigation to determine the scope.

I practically held that there was no infringement from the face of the patent itself.

In view of the knowledge that I had of the other patents, I held the above opinion.

(Testimony of William A. Doble)

(T. 1398)

I never expressed an opinion as to whether the Parker original patent was invalid at that time.

I considered the subject of reissue but I did not make any mention of it to Mr. Baruch.

As to my understanding of the time in which one may apply for a reissue without explaining delays, I would say that brings in the whole question of intervening rights and analogous questions. As I understand the rule it is that if the delay is over two years a broadened reissue patent is uniformly held void, but within the period under some circumstances a patent may be issued to correct errors, and in some circumstances it cannot. I wouldn't say there was a general rule that you had the privilege of reissuing a patent. (T. 1399)

My understanding of whether you could file claims to more adequately protect the invention disclosed by putting in broader claims if filed within two years, was that that depended on whether the errors in the original patent arose from certain legal causes and whether there had or had not been any so-called intervening rights that had arisen in the meantime.

I did not call the attention of the owner of the Parker patent to any of these alleged intervening rights at any time between the dates of the issue of the original patent and the application or issue of the reissue patent.

I talked to Mr. Baruch and showed him the Parker patent and explained to him that it related to an elevator and showed him how it was constructed. I went over it with him and showed him the claims. (T. 1400)

(Testimony of William A. Doble)

(T. 1400)

I explained that it embodied a master switch within the car, which was, I think as I explained it, electrically latched in running position, and was interrupted or was released by the floor selector to stop the car: that it was the apparent intention of the patentee to take a lever type elevator and latch the lever in one position when the car was started, and release it automotically to stop the car. And I pointed out to him how that conception was embodied in the original claims.

I showed him the push-button arrangement and explained that it was released automatically by setting up a series of buttons in the car and various ones at each landing.

I told him how it worked.

I am not sure which of us told who how that part of it worked. We went over it together.

One or the other of us understood how it worked at that time. (T. 1401)

Mr. Baruch was not very much interested in the patent. He explained to me that as far as the push-button end of it was concerned, push-button elevators were old practice and he couldn't see any resemblance in the push-button type and the way that the push-button type was connected in this system, and the investigation was simply dropped at that point.

I did not say anything further to him than I have already stated that I recall.

The demand for additional information is waived for the time being.

(T. 1402)

(Testimony of Ray E. DeCamp)

REDIRECT EXAMINATION. (T. 1403)

As to why I did not take up the possibility of the Parker patent being reissued with Mr. Baruch on that occasion, it was my opinion that any attempt to reissue the patent to include claims broad enough to cover the construction that they were making—that the claims would be for a supposed different invention and not for the same supposed invention that the original patent was directed to; and, further, that there was no subject-matter in the patent which could be covered, that was common to Parker and the construction that they were undertaking. (T. 1404)

RAY E. DECAMP,

recalled on behalf of the Defendants.

DIRECT EXAMINATION by Mr. L. S. Lyon.

I made the four drawings produced in connection with the testimony of Mr. Richard F. Lyon, Exhibits AA-1 to 4.

The drawings Exhibits AA-1, 2, and 3 are simplified drawings of the wiring as it was installed at the Petroleum Securities Building. The drawing 400-296, Exhibit AA-4, was made at the request of Mr. Baruch for Mr. Lyon, to make a diagram for him that would eliminate as far as possible all the fuses and all the safety circuits and such circuits as that, in order that it could be simplified as far as possible, so that he could understand the construction of the apparatus as used at the Petroleum Securities Building.

They were used on the No. 4 car at the Petroleum Securities job.

(Testimony of Ray E. DeCamp)

(T. 1405)

Witness was asked how far those drawings correctly show the No. 4 installation at the Petroleum Securities Building.

Objected to as leading, incompetent, irrelevant, and immaterial.

Overruled.

Exception.

Witness answered: These drawings show the Petroleum Securities No. 4 car as it was tested out at that time it was installed.

Referring to the four different elevators installations during the inspection last Saturday and as to what type of leveling was employed and the whereabouts of the slow-down and leveling cams or switches, and defining the terms, I would say, by main motor leveling is meant an elevator installation in which the entire operation of the elevator, including the leveling or running on the creeping speeds, as it is sometimes called, is accomplished entirely by means of the single hoisting mechanism, and by means of the one elevator driving motor. By the micro method of leveling is meant an elevator installation in which the level or final step of deceleration is secured by means of an auxiliary hoisting device, which consists of a separate motor, which is geared to the main hoisting motor. (T. 1406)

Mr. Lane: I move to strike the latter part of the answer out unless he limits it to what it meant to him.

The Master: Yes.

(T. 1406)

The first installation we visited was in the Merchants Bank Building on Seventh and Spring Streets, in which

(Testimony of Ray E. DeCamp)

we found main motor leveling, and the cams to accomplish this final step of deceleration and the leveling were located in the penthouse. In the second installation we visited, the Seventh and Main Street job, which I believe is called the Board of Trade Building, the leveling was accomplished by means of a separate auxiliary hoisting device which was geared to the main driving motor. The leveling cams for this were situated on top of the car. There were no leveling cams in the penthouse at all.

The third job we visited was the Petroleum Securities No. 4 car, which had main motor leveling, and in which the leveling cams were situated on the automatic slow-down and stopping machine in the penthouse.

The fourth job we visited was the Pacific Finance Building, which had main motor leveling, and in which the leveling switches and cams were situated in the penthouse on the automatic slow-down and stopping machine. (T. 1407)

The Board of Trade or Seventh and Main Street job was installed and running at least temporarily in May, 1926, just about the same time our last car in the Finance Building was put in operation.

The Hellman Bank Building or Bank of America Building at Seventh and Spring installation by the Otis Elevator Company was in passenger service approximately a year ago, about April 1928. (T. 1408)

(T. 1408)

Referring to the shield which covered the primary slow-down drum and some of the other mechanism on the No. 4 car at the Petroleum Securities Building, and when that shield was first put on the installation, I would

(Testimony of Ray E. DeCamp)

say that shield was put on as near as I can recollect in the last of September or the first of October, 1925.

I was instructed to put it on by Mr. Reese Llewellyn. (T. 1409)

It was put on after we learned that the Otis representatives had inspected the apparatus.

Moved to strike the answer as a conclusion of witness.

Sustained, but left in the Transcript for the purpose of the record, subject to the exception allowed to the defendants. (T. 1410)

As to when the Otis Elevator Company first brought out a so-called signal control elevator employing main motor leveling with the cams and switches in the penthouse, so far as my knowledge goes it would be in 1928, in the Merchants Bank Building in the city.

The Ward-Leonard system of variable voltage was a very old system prior to our development of our type of installation.

The chief change that we made in the old Ward-Leonard system to make the motor leveling possible was to incorporate the series field on the generator.

The function of that series field is to drive the elevator car as near as possible at constant speed, especially at the low creeping speeds, irrespective of what load is put on the elevator car.

(T. 1412)

Explaining what the series field means and how it accomplishes that particular purpose, I would say without the series field on the generator a Ward-Leonard system would not result in a constant speed at all on the creeping speeds. The fact is, with full speed on the elevator, the

(Testimony of Ray E. De Camp)

elevator might not even move, but adding the series field on the generator, this series field being arranged so that the current from the armature of the generator passes through the series field, and which same current also passes through the armature of the elevator driving motor, results in an automatic strengthening of the field as the load is increased on the elevator driving motor; that is, if the load on the driving motor is heavy the current through the series field must be correspondingly heavy, and the heavy current through this series field results in strengthening the magnetism of the generator and assists in building up a higher voltage than otherwise would be obtained, and this higher voltage tends to keep the speed of the elevator car practically constant. It is an automatic device that depends upon the current which is drawn by the elevator motor to compensate for loads which are placed on the elevator car.

The slow-down and stopping mechanism employed in our type of installation in the Pacific Finance Building would not function properly without the series field.

(T. 1413)

As to where I got the idea for this series field in those installations, that came from the result of the previous experimental work that was done by Mr. Walker and Mr. Bouton in 1921.

(T. 1414)

That feature is not employed in the micro-drive elevators of the Otis signal type in the Seventh and Main Street job, but it is employed in the Seventh and Spring Street job, which was put in in 1928 in the Merchants Bank job.

(Testimony of Ray E. De Camp)

By multi voltage is meant a system of electric control used by the Otis Elevator Company in which there is usually a generator for a bank of elevators, which generator produces four different voltages, a voltage of 60 volts, another voltage of 120, a voltage of 180, or 240 volts. As the elevator is accelerated the hoisting motor is successively connected to these various voltages, until the elevator motor is finally connected directly across the hoist on 240 volts. Deceleration is accomplished in the same way, except in reverse manner; starting from the 240 volts, and ending up with the lower voltage, or probably 60 volts.

Referring to practical differences in the operation of multi voltage as compared with variable voltage, the latter incorporating the series field, I would say the multi voltage is somewhat similar to what is commonly called the rheostatic control, which also operates in steps of voltage being impressed on the elevator motor directly. But in contrast to this the variable voltage, or Ward-Leonard system, the voltage is applied—the D. C. power source is applied directly to the fields of the Ward-Leonard generator, and the only main current that is carried by the motor is carried through the series field of the generator. In this case it is necessary to have an individual motor generator set for each elevator-driving motor. In this case it is possible to use the series field of the indi-

(T. 1415)

vidual generator to compensate for the loads. (T. 1415)

CROSS-EXAMINATION

By Mr. Lane.

In the installation that I saw at the Petroleum Securities Building on Saturday the entire control board which had

(Testimony of Ray E. De Camp)

been previously set up for the manual operation had been discarded and was set aside at the far end of the room from where the other mechanism was observed.

The cam actuating selector mechanism which was there was covered over with metal plate, and had two locks on the ends.

But a person could open the mechanism as we did there by uncatching the locks at the top and throwing them open, and observe the interior. (T. 1416)

The locks were added afterwards to lock the mechanism up or intended to lock the mechanism up so that nobody could look at the automatic slow-down and stopping machine.

The locks on the other part were just as we saw them the other day.

Witness was asked whether he ever saw anyone connected with the Otis Elevator Company examining that installation in the Petroleum Securities Building at any time.

Objection.

Overruled.

Witness answered: No, I never did. (T. 1417)

(T. 1417)

Witness was asked whether he knew that the Otis Elevator Company had a license under the Ward-Leonard patent from 1892 until it expired.

Objected to as not cross-examination, incompetent, irrelevant, and immaterial.

Sustained. (*$$*. 1418)

As to whether I know whether the Ward-Leonard structure was recognized as a standard elevator structure

(Testimony of Ray E. DeCamp)

for years prior to 1920, I have no knowledge of any elevator practice before 1920.

I knew that the Ward-Leonard system had been used in connection with steel mills in connection with rolling mills, and in connection with mine hoists—just general knowledge. (T. 1419)

The Ward-Leonard, as far as I knew about it at that time, simply consisted of a generator in which the fields had a shunt field which was excited by a separate source to control the feed of a main motor, or a hoisting motor, in the case of a mine hoist.

The motor was reversed by reversing the field. That was done usually by means of some reversing switching equipment of some kind.

That was done by the operator within the car in connection with steel mills.

I have no knowledge of any elevator practice of the Ward-Leonard system prior to 1920.

Whether the Ward-Leonard system was a system in which they had a main motor for driving the elevator in (T. 1419)

both directions, all I can say is my experience after 1921, because we had the Ward-Leonard system, which had a separate generator for the elevator-driving motor. (T. 1420)

I knew it was the Ward-Leonard system when we started that work in 1921.

I knew nothing about the Ward-Leonard system in connection with elevators previous to 1920.

Witness was asked whether in the Ward-Leonard system the elevator motor is driven in either direction by

(Testimony of Ray E. DeCamp)

the controlling generator, and the speed of the motor is regulated by increasing or diminishing the voltage of the generator; the reversal of the direction of the current through the generator field windings causes the reversal of the direction of the rotation of the motor. Isn't that an accurate description of the Ward-Leonard generator as known by you previous to 1920?

Objected to. (T. 1421)

The Master asked whether the description in the question would describe the Ward-Leonard system of control as the witness became acquainted with it prior to the time this work was done.

Witness answered: Yes, that describes the Ward-Leonard system as I knew it in 1920 when I first came to the Llewellyn Iron Works, and describes it before, that is, as I knew it before we added the series field to the generator.

(T. 1421)

I do not know what the General Electric Company uses.

(T. 1422)

I base my statement that the series field is absolutely essential for the proper operation of the Ward-Leonard control in elevator practice on tests and experiments that we have made.

As to whether the Master as well as all the gentlemen who accompanied him saw the operation of the elevators at each of these buildings and the construction of the penthouse in each instance, the Master was present at the installation of the Seventh and Main Street job; the Merchants Bank job; the Pan Gas and the Pacific Finance job.

(Testimony of Ray E. DeCamp)

I explained to him such of the operations of the latter two as I desired and I presume that the Otis people explained to him such as they desired concerning the other two installations, particularly the Seventh and Spring Street, Merchants Bank installation. (T. 1423)

I did not hear everything that was said, while I heard you explaining to the Master about it.

We went from the Merchants Bank Building to the Seventh and Main Building. I do not know who it was that requested it.

Mr. L. S. Lyon said: I think I insisted on it Saturday morning.

The Master: Yes, I think it was at the suggestion of the defendants that we went down there.

(T. 1424)

As to whether the attention of the Master was called to the self-leveling from a separate motor, and that there were cams in the hatch instead of in the penthouse, in the Seventh and Main installation, it may have been. I do not know. I am certain I did not say anything about it.

Mr. Lane: I am willing to state on the record that it was my observation that that was called to the Master's attention at that time. (T. 1425)

The Master: I will make this much of an observation now: that I saw the extra motor, the small motor, apparently hooked onto the same shaft with the large motor, and I was told, I think by two or three persons there, that the small motor was controlled by cams down in the hatchway. (T. 1426)

(Testimony of Samuel H. Keller)

Referring to the operations, the Master stated: In all installations—and I don't think there is any disagreement about this—that in all of these installations the operator would push the buttons and initiate the starting of the car, and throw his switch into neutral, and then the car would stop when we got to that floor; and we also found out that the buttons on the outside would stop the car. We observed a good many different things, like the buttons that pass up the floor switch, and matters of that kind. (T. 1427)

A certified file wrapper of the original Parker patent offered in evidence as Defendants' Exhibit CC.

(T. 1427)

Defendant offered in evidence the drawings supplied to them by counsel for the plaintiff as illustrative of the wiring circuits of the Pacific Telephone & Telegraph Company, as Defendants' Exhibit DD.

MR. LYON: That completes the defendants' case.

VOLUME 12.

(T. 1429)

SAMUEL H. KELLER

Called As A Witness On Behalf Of Plaintiff In Rebuttal.

DIRECT EXAMINATION

By Mr. Lane.

My name is Samuel H. Keller; age 36; residence, Los Angeles; I am service salesman for the Otis Elevator Company; have been connected with them in that capacity for five years in connection with the Los Angeles office.

(Testimony of Samuel H. Keller)

I saw the installation of elevators at the Petroleum Securities Building in Los Angeles. I saw that either June or July, 1925.

Referring to the circumstances which caused me to see that installation, our company was negotiating on some job in Pasadena, in which new equipment manufactured by the Elevator Supplies Company was proposed to be used, and Mr. Selenta and Mr. Sauter and myself were out to lunch, and they asked me to go along over and see this new equipment, which we did, at the Elevator Supplies Company's office. And Mr. Gaylord then said that he had some of this equipment installed in the Petroleum Securities Building, and we walked over and looked it over. (T. 1430)

As I recollect it, we went up on one of the east cars, talked with one of the Elevator Supplies men who was working on the car, and then went up into the penthouse and looked over the master signal equipment. (T. 1431)

The master signal equipment is that equipment that is used to signal or to register the signals of the waiting passengers. Mr. Gaylord showed us that equipment and explained it to us. All three of us were present when this explanation was being carried on.

We went up into the penthouse and saw a number of machines, that is, just a casual examination. We looked over the master signal equipment and saw the new designs, and at the same time we saw a metal hood covering some appliance; and we inquired from Mr. Gaylord what it was and he said: "That is some new device that the Llewellyn people are experimenting on." And

(Testimony of Samuel H. Keller)

we asked him about it, and he said, "Well, I don't know very much about it." And, to the best of my knowledge, that is about all that occurred. (T. 1432)

He did not explain what was under the metal hood in any way. The metal hood was approximately four feet in front of the master signal panel, and we did not see anything under it. We did not see any mechanism in it. (T. 1433)

Mr. Gaylord did not explain to me in any way what was inside of the metal drum, and he did not make any other statement concerning what was in the metal drum other than I have stated. I would say that we were not in the penthouse over five or ten minutes. We then came down the elevator and left the building. We came down in No. 4.

As to what took place in coming down, we saw some new equipment fastened to the elevator car on the south side of the shaft, and we asked the operator what that was, and he said that the Llewellyn people were changing that over to a push-button elevator. (T. 1433)

I do not think it was operating on any push button system at that time, and I did not see any operations take place from the push buttons.

The witness was asked whether the cars were operating entirely on manual control at the time of his visit there. Objection. Overruled. Exception. The witness answered—I could not say yes or no. I really don't know. I only saw the two elevators, to the best of my knowledge. I was not at that installation any other time in 1925 than the one I referred to. I believe I heard all the conversation that took place on that occasion.

(Testimony of Samuel H. Keller)

I was in the group on this occasion, so that I could hear everything that was said. I did not know what was inside the drum as a result of my visit there. The equipment was not completed at that time. They were still working on it. The people who were there on that single occasion when I was there were Mr. Gaylord, Mr. Sauter, Mr. Selenta, and myself, four men in all. (T. 1436)

Cross-Examination By Mr. L. S. Lyon

We left the building on the occasion of that visit by riding from the penthouse to the street level in the No. 4 car. The car may have stopped on the way down, but I do not know. I do not know whether there was any one else in the car at any stage of the trip down. I do not remember Mr. Llewellyn or Mr. Taylor of the Llewellyn Iron Works being in the car. I am positive I wasn't introduced either during the trip down in that car or after I had arrived at the street level in the building. To the best of my knowledge, none of the members of our group were introduced to anyone. I do not remember Mr. E. L. Doheny getting into the car and riding down with us. I am positive that I did not know that he got on the car. My impression is that he didn't. My impression is that there was only our group on the car. (T 1437)

I am not positive whether the car stopped on the way down to take on any passengers, and I am not positive that the car did not stop in response to a hall button automatically and take on passengers.

I did not make any inspection at all of the equipment in the penthouse that was used in connection only with

(Testimony of Samuel H. Keller)

the No. 4 car. I do not know what you mean by the slow-down mechanism. No one to my knowledge asked about the speed of the No. 4 car on that occasion. To the best of my knowledge, no reference was made to the speed by any one in our group.

My recollection of the visit is so definite and clear that I can distinctly remember that no such question was asked. That visit was in June or July of 1925. I fix that date in reference to a job we were doing in Pasadena. In accordance with our records, the job in Pasadena was awarded June 11th. We were talking about that job, a big job that we had got prior to that luncheon engagement, when I went out with Sauter and Selenta. Probably that same week.

We made that inspection in either June or July. I could not state positively whether it was in June or July. I do not know whether it was within a week after our getting that job. I believe it was within a month after getting that Pasadena job, but I do not know.

I do not think that visit was in August. I am positive it was not in August. I am positive because of the reference to the job in Pasadena. Because we discussed a larger job we had gotten; that was one of the recent jobs. I would estimate that it was a week or ten days that we discussed the Pasadena job before the visit to the Petroleum Securities Building. I would not say positively that the trip was in June, but I am sure that it was not in August. It probably was early in July. I would not say that it was late in July. I don't think it could have been late in July. I am sure of that from the date we fixed on the awarding of the Pasadena job. (T. 1441)

(Testimony of Samuel H. Keller)

Mr. Sauter and Mr. Selenta and myself from our company were with me on the occasion of that visit. I do not know Mr. Scholts. There was something in the pent house covered over by an iron hood. I could not tell you the color of the hood. It was approximately three feet spare at the base and dome shaped.

I have seen it since then about 1927. I believe that iron hood covered all of that equipment that I saw on that occasion. The hood did not cover the main motor or the main winding machine.

I saw the main motor and the winding machine. It did not cover anything except the main motor. It did not cover the main motor equipment. It was something special set out in front of the master signal panel.

As to what we saw on that occasion, that was connected to the No. 4 car, we saw the regular standard winding machine which consists of the winding drum, bearing, etc. That could be plainly seen.

We saw the switches that operated the car; we saw the control panel. I believe that is the best description I could give as to what I saw on the No. 4 car. As to how we came to look at that equipment that was special to No. 4 car, it was first brought to our attention while we were looking at the signal equipment when we heard a clacking noise in something, and it was then we inquired what it was. We inquired of Mr. Gaylord. He did not tell us it was some new equipment for automatically stopping the No. 4 car. He said that is some new device that Llewellyn is trying out, but I don't know much about it. That is all he said, to the best of my knowledge. (T. 1444)

(Testimony of Samuel H. Keller)

I saw a panel of buttons in the No. 4 car when we rode in it. It was customary to have buttons of dual control push-button type. I did not know what those buttons were for, I had no idea; if I recollect exactly, we asked the operator what they had had that in there for, and he then said that they were trying out a push-button scheme. To the best of my knowledge we did not ride up in the No. 4 car. I am not sure, but to the best of my knowledge, we got on the car and went down and got out.

We rode up in one of the east cars, to the best of my knowledge. I have a clear definite recollection that we went up to approximately the fifth floor and got off and talked to some of the elevator supplies men there. I do not recall how we got from the fifth floor to the pent house. To the best of my knowledge, we did not ride up in the No. 4 car. I could not say what car we rode up in from the fifth floor to the penthouse.

(T. 1446)

As to how I saw the equipment in 1927, our company was interested in the installation of a set of hoisting cables, or a number of sets of hoisting cables. I could not state whether that was a variable voltage machine that I saw on that No. 4 car on the occasion of the 1925 visit. I do not remember whether we saw motor generators for operating the cars. I don't recall seeing any. I cannot state whether or not there were any. Mr. Gaylord did not show us the two wires that led from his selector machine over to this hoisting equipment for the No. 4 car. I am positive of that.

We did not have enough time to even go into detail at all. I did not see those wires.

(Testimony of Samuel H. Keller)

We saw the No. 4 equipment because it was right in front and attracted our attention by a loud clacking noise. (T. 1447)

My position at the time of this 1925 visit to the Petroleum Securities Building was service salesman, and Mr. Sauter was a salesman in the new sales department. Mr. Selenta was a salesman. I was connected with the Los Angeles office of the Otis Elevator Company. All of the man were connected with the Los Angeles office.

RE-DIRECT EXAMINATION by MR. LANE.

(T. 1448)

As to why I went there in 1927, as I recall it, they wanted to try out some Roebling hoisting cable, which they did, and that later proved defective, and I was there on that trouble. To the best of my knowledge, the Otis Company did not furnish the cable for any of the equipment at that time.

It was furnished by Roebling through the Llewellyn people. We had recommended to the manager that he try out Roebling cable and when that proved defective Mr. Folsom of the Roebling people asked me to go over and look over the equipment with him. On that second occasion we did not see any of the control equipment of any kind of the signaling devices. I did not go there for any such purpose.

I have not at any time seen what was inside of that drum which I testified I saw in 1925. (T. 1449)

(Testimony of Frank L. Sessions)

FRANK L. SESSIONS (T. 1450)

Called as a Witness On behalf of the Plaintiff In Rebuttal.

Direct Examination by Mr. Lane.

My name is Frank L. Sessions; 60 years old; I live in Lakewood, a suburb of Cleveland, Ohio; my occupation is consulting engineer with offices in the Rockefeller Building in Cleveland.

I am a graduate of the Worchester Polytechnic Institute, of Worchester, Massachusetts, and hold the degree of Mechanical Engineer, granted by that school. I have had upwards of thirty-five years in practically continuous and active experience in the design, manufacture, testing, installation and operation of electrical and mechanical machinery. I have held positions in engineering capacities with the Dean Steam Pump Company at Holyoke, Massachusetts, a short time after I graduated, and for nine years I was with Ft. Wayne Electric Company at Ft. Wayne, Indiana, as draftsman, chief draftsman, and mechanical and electrical engineer. That company was engaged in the manufacture of electric dynamos and motors of both direct and alternating current types, transformers, switches, circuit breakers, lamps, meters.

(T. 1451)

I was familiar with all the apparatus made by the company, and in fact designed a large part of it. I was for about a year and a half mechanical engineer in charge of design for the Siemans & Halske Electric Company of America, at Chicago, where I had charge of the design and equipment of their products, which comprised gener-

(Testimony of Frank L. Sessions)

ators, up to 2500 kilowatts capacity, and all of the usual lines of motors and accesories, street-car motors, automobile motors and controls. I was for eleven years chief engineer of the Jeffrey Manufacturing Company at Columbus, Ohio, where I had full charge of the design, and indirect supervision of the manufacture, of their output, which comprised electric mine locomotives, electric hoists, electric mining machinery, and all of the various controls essential for the operation of such machinery. In this position I became familiar with the Ward Leonard controls of hoists and other applications of the Ward Leonard system of operation of dynamo electric machinery. I was for two years general superintendent of the Standard Welding Company of Cleveland, Ohio, manufacturers of electrically welded products, with which company I was general superintendent and consulting engineer.

(T. 1452)

Since 1914 I have been in general consulting engineering work at Cleveland. I am familiar with the reading of patents for inventions, and have examined the Parker reissue patent No. 16,297 of March 23, 1926. I have examined the original of that patent, and understand the construction and operation shown in those two patents.

The witness was asked from his experience as an engineer whether the structure shown and described in those patents is a practical device. Objected to as not rebuttal testimony.

THE MASTER: If you are willing to admit that the Parker patent is operative—

MR. L. S. LYON: It would do exactly what its drawings show it would do, and it would do that all

(Testimony of Frank L. Sessions)

right; but it wouldn't do the things that the plaintiff is claiming for it, and it wouldn't do the things that they interpolated into the reissue, which Parker never attempted to put in his original patent at all. It will perform just as it is shown there, but that is an impractical proposition. We are not raising any issue that the thing won't do anything at all. We are raising the issue or we are contesting the plaintiff's claim that the Parker system is the same as ours and will do what ours does. We are replying to that. We do not admit that the Parker patent is an operative structure as claimed in the reissue patent. (T. 1456)

THE MASTER called attention to the allegations in defendants' answer, stating that the disclosure of the Parker reissue letters patent are inoperative, lacking in practical utility, and stated that he would allow testimony on any issues in which the defendant was carrying the affirmative.

Objection overruled. Exception.

The structure shown and described in the Parker patent is practical and operative. Objection. Overruled. Exception. (T. 1460)

I, as an engineer, would not have any difficulty in installing that structure in an elevator for commercial operation. In my opinion the Parker structure shown and described in the Parker patents would be a practical operative elevator.

The Parker patent shows the apparatus and electrical connections in diagrammatic form. The electrical connections and the principle of operation are clearly shown and set forth in the specifications, and it is optional with the person who wishes to embody this invention to

(Testimony of Frank L. Sessions)

use any form of apparatus in which to incorporate the principles of the invention, that he may desire to or of necessity have to.

Move to strike the answer on the ground that it is incompetent in stating a conclusion of law and not restricting the answer to a statement of what is disclosed in the Parker specifications and drawings. Denied. Exception. (T. 1461)

I have seen the device disclosed and described in the Parker patent installed in elevators. In the one instance it was installed in the Merchants National Bank Building at the corner of Seventh and Spring Streets of this city. In another instance the Llewellyn elevators in the Pacific Finance Building on South Hope Street in this city. Objection. Overruled.

From my knowledge and familiarity and understanding of the Parker patent, the structure there shown is adaptable to high speed elevators. I have seen it embodied in high speed elevators in the Otis Elevators in the Merchants National Bank Building, and the Llewellyn elevators in the Pacific Finance Building. (T. 1471)

The appartus shown and described in the Parker patent in my opinion would not be dangerous to the apparatus or the passengers in use in high speed elevators. It was extremely safe to both apparatus and passengers.

The structure shown and described in the Parker patent is adaptable for use in connection with a bank of elevators if properly connected up; I have seen it so embodied in both the Otis elevators and defendants'.

In the structure shown and described in the Parker patent, an up traveling car would not stop in response to a down hall button, because the circuits and switches

(Testimony of Frank L. Sessions)

are so arranged that the pushing of the down hall button will not stop an up-traveling car. (T. 1474)

The witness was asked to explain in the structure disclosed and described in the Parker patent what he understood the teachings to mean in connection with the selector apparatus and how it functions and works.

The witness answered—The essential or fundamental features of this Parker invention are well stated in the specifications, commencing with line 50. Objected to as not responsive. The witness continued—In the paragraph commencing with line 50 and ending at line 70 of page 1, without reading into the record this statement, the features of the selector are that in a circuit which controls the stopping of the car there are two gaps in series. One of these gaps is adapted to be closed by a manually operated switch or push button, and the other gap which completes the closure of the circuit is closed automatically by a switch which is operated by a mechanism traveling in harmony or synchronism with the car, so that when the car arrives at the point represented by the cam mechanism of the selector, this second gap in the control circuit will be closed and the stopping mechanism for the elevator will start to function. (T. 1475)

The witness was asked to explain the construction as to the rings g, g′, the wiring thereto, the arm 34, and the switch plate S in connection with their operation, both for up and down movement, and travel of the car, limiting the question to the matters that were raised by defendants' three exhibits V, Y and W.

Mr. Lane stated that the question relates to Mr. Doble's suggestion that there is only one switch plate or one

(Testimony of Frank L. Sessions)

arm 34, and that the device would stop when the master switch was thrown back to its central or off position, and the stopping of the car through the use of a down button when the car is going in the up direction.

The witness answered: The rings g and g′ are separate rings, insulated from each other, carried by the selector plate S. In my opinion there is no reason to construe this construction in any other way. There are wires, one number 36, leading to the ring g, and number 36′ leading to the ring g′. If the rings g and g′ were to be electrically always connected together, as by the brush 34, then there would be no necessity for running two wires 36 and 36′ to them. One wire would answer. Further, the specification states that the brush 34 bridges the gap between the ring g and the unprimed f contacts, and also refers to the connection of the ring g′ to the primed f contacts in a similar manner to that which is accomplished by the brush 34 bridging the gap between the ring g and the contact f^2. I should have said the bridging of the gaps between the ring g and the unprimed f contacts. With this understanding the circuits which are actuated for the stopping of the car are the circuits for instance in the up direction, the circuit from the line 12, which is the positive terminal of the source of electric power, through the wire 14, the contact 10, the contact making the member 9, the contact 11, the wire 35, through that one of the push-button relays of the up car buttons to the wire h^2; thence to the button f^2 upon the selector. When the brush 34 bridges the gap from the ring g to the contact f^2, the secondary control circuit is completed and current passes from the ring g down through the wire 36, to the winding or coil 37, which is the release coil

(Testimony of Frank L. Sessions)

for the magnet 32 that has been maintaining the main motor control circuit in operation. The current passing through the relay of the push-button that has been operated and through the coil 37 resets the push-button, and also opens the main motor control circuit. This circuit is the one which leads from the wire 12, through the wire 14, the contacts 10 and 11, bridged by the switch member 9 and the wire 15, to the relay 16, which initiates the starting and stopping of the motor so far as the main motor circuit is concerned. For the down direction, with the handle 3 thrown to the left and the contact member 9′ bridging the contacts 10′-11′ and one of the down buttons pushed in the car, the line is energized, or, as has been aptly expressed here, made hot, from the wire 12, through the wire 14′, and contacts 10′-11′, by the bridging member 9′, the wire 35′, to the relay magnet for which the button has been pushed; thence thrown wire h2′, assuming that it was the second floor button that was pushed, thence to the button f2′ upon the selector. The other side of the line is also energized or made hot up to the ring g′. When the brush, which is the brush 34′, not shown on the drawing but clearly described in the specifications, which bridges the gaps between the ring g′ and the prime f contacts, arrives at the point where it touches the contacts f2′, the secondary stop control circuit is completed, the first gap having been closed by pushing the button d2′, and the second gap having been closed by the brush 34′, bridging the gap between the ring g′ and the contacts f2′. Current then flows from the positive line through the wire 14′, the contacts 10′ bridging member 9′, contact 11′, the wire 35′, through the relay magnet of the push-button, through

(Testimony of Frank L. Sessions)

the wire h2′, to the contact f2′, by the brush 34′, to the ring g′, thence by wire 36′ to the deenergizing coil 37′ of the magnet 31′; thence by wire 38′ to the negative side of the line 13. This circuit causes the release of bridging member 9′ from the contacts 10′ and 11′, and opens the motor control circuit, and also causes the re-setting of the push down button, in this case the button d2′.

(T. 1479)

I have described the operation of the up and down movement of the elevator in connection with the car push-buttons. The operation of the elevator in which the car is stopped by the hall button is similar in every way to that described for the operation of the car by the car buttons, the difference being that the push-buttons of the series marked i′ are the ones which initiate the stopping of the car in the down direction, and the ones marked by the refence characters i unprimed are the ones which initiate the stopping of the car when moving in the up direction. (T. 1480)

Move to strike the portion of the answer referring to the operation of the car buttons as not responsive. Denied. Exception.

From my understanding of the Parker patent, as an engineer, and whether the rings g and g′ are always connected by the brush 34 or not, I would say if such were the case the entire purpose of the patent would be destroyed. The rings are shown as separate rings and connected by separate wires, and they can only function if they are separate rings insulated from each other. So that there is only one conclusion to me as an engineer as to these rings, and that is that they are separate rings, insulated from each other. (T. 1480)

(Testimony of Frank L. Sessions)

The bridging of the rings at all times by the brush 34 would be equivalent to their being made in one piece. If they were to be bridged at all times, their purpose and functions would be destroyed, and there would be no object in showing two separate rings, if they were to be bridged at all times by an electrical conductor.

(T. 1480-1481)

From my understanding of the Parker patent disclosure the stop buttons would not be reset by the contact piece 42 bridging 39 and 40 of the Parker patent and 39′ and 40′ by the handle 3 when the arm 41 was returned to central or neutral position, unless the rings g and g′ are always connected together. As they are not connected to gether, there would be no danger of the bridging member 42 resetting the buttons in the way I have described.

As to my understanding of the Parker patent and its teachings to me as an engineer, and whether that contemplates the resetting of the hall buttons when the car passes the floor in the opposite direction from that for which the hall buttons have been pushed, I would say the description in the specification in my opinion clearly teaches non-interference with the hall buttons by the passage of the car in the opposite direction from that for which the button has been pushed; but the circuits shown in the patent drawing are so connected that such will occur, that is, if the down hall button at the second floor has been pushed, the elevator ascends and the down hall button at the second floor will be reset. This is a matter that would be very readily detached by any one skilled in the art reading the drawing, and its remedy is very simple. If the wires n2, n3 and n4 leading from the conductor 12 to the hall button relays for the second,

(Testimony of Frank L. Sessions)

third and fourth floors, respectively, be disconnected from the wire 12, which is the positive side of the current supply circuit, and then all of the down hall relay magnets be connected to the wire 35′ and all of the up hall relay magnets be connected to the wire 35, the defect or inconvenient operation about which you have inquired will be overcome. These connections of the hall relay magnets put the down hall relay magnet coils in parallel with the down car relay magnet coils, and also put the up hall relay magnet coils in parallel with the up car relay magnet coils. So there is none of the interference which you have mentioned. (T. 1482)

In the Parker system the operation of the car switch makes the circuit, and when a push-button is pressed either from the hall or from the landing a circuit is set up which is automatically completed by the selector, so that when the circuit completed by the selector and the push-buttons has been accomplished, the switch closed by the operating of the master switch is opened and the power cut off. (T. 1484)

(T. 1484)

CROSS EXAMINATION BY MR. L. S. LYON.

I never myself designed a passenger elevator. I have assisted in the installation of passenger elevators. I would not say that I am a practical expert in the elevator art. I am an engineer familiar with a great many of the practical problems however.

In my answers that the Parker disclosure can be operatively applied for high speed, bank elevators, and so forth, the only examples that I have in mind where any of these things have been done are the so-called Otis

(Testimony of Frank L. Sessions)

signal control system which have been described, or the defendants' systems which have been described. Those are the only two makes of elevators that I am aware of that embody those features. Those two makes of elevators are built identically in accordance with the diagram of the Parker patent in suit in the essential features, not in detail.

Diagrammatically it is true that the only arrangement shown in the Parker patent and disclosed in the specifications or drawing involves electrically latching a switch in the car in position for the car to run and automatically electrically unlatching that switch. There is no description of any other arrangement in the Parker patent.

Such arrangement as has been just defined is not employed in the Otis signal control system. Instead of direct control there is remote control. Such an arrangement is not employed in the defendants' system, where the switch-holding mechanism is located within the car and locked into position electrically, and then unlocked electrically. (T. 1486)

As to my suggestion of how to eliminate the leads n2 and substitute leads running to the lines 35 or 35′, that is not disclosed in the patent in suit. If my suggestion were employed, I do not know whether that would prevent it from being used in a bank of elevators or not. The system has been used in a bank of elevators and it does not have the defect that is present in the Parker system.

When I refer to the system having been used in a bank of elevators, I refer to the Otis signal control and the Llewellyn signal control. I do not know whether or not those two systems have a lead that runs from the

(Testimony of Frank L. Sessions)

hall relays to leads that correspond to the numbers 35 or 34 in this patent diagram.

Offhand I could not state as an engineer whether my suggestion of employing such leads in lieu of what is shown in the Parker patent would limit the operation of the elevator to one car, as distinguished from a bank of cars.

I do not find a second brush shown in the drawings of the Parker patent for the floor selector. It is called for in the specifications. It would be number 34′ if it were on the drawings. (T. 1488)

Pointing out the reference to the brush 34′ in the specifications of the patent in suit, commencing with page 3, line 128, and running on to page 4, line 84, there is described in detail the construction of the up travel selector contacts. Then the paragraph that follows, commencing with line 84 and ending with line 100, reads as follows:

"I have thus described the complete secondary circuit controlling the automatic stopping of the elevator car during its ascending travel. It will be understood that a similar secondary control circuit, employing similar devise for actuating the operative closing of the same, is provided for controlling the automatic stopping of the elevator car during its descending travel. In order to avoid repetition of description I have designated the wiring and parts of said latter or descending secondary control circuit as shown on the drawing, with the same reference numerals and characters to which, for the purpose of distinguishing the same from the ascending

(Testimony of Frank L. Sessions)

secondary control circuit and its parts, I have affixed the prime character."

That paragraph refers to similar parts, and consequently they cannot be the same parts, and parts referred to by the same letters with a prime character. Inasmuch as the system would be completely inoperative if there were only one brush 34, which contacted with both *rins* g and g', and the primed and unprimed f contacts, the only conclusion that an engineer can draw—at the least the only conclusion that I can draw—is that there is another brush which, if shown on the drawings would be called 34'; and it may well me that that brush is hidden by the brush 34, in the drawings.

Assuming there was a brush 34' hidden by the brush 34, the brush 34 could contact with the rings g or g', merely by bending or looping the contacts. It is a very simple matter. Any electrician will make those circuits to bridge between g and the unprimed f contacts, and the other brush to bridge between g' and the primed f contacts. No bend is shown in 34 in the drawing. It it not essential to have a bend in it.

As to whether 34 would not have to have a bend so that it would only contact with either g or g', I would say it might have a bend or it might not. There are four things to be contacted with by one or more brushes. I say there are two brushes. These four things are two rings and two studs or terminals. Now, with a single flat metal brush it would be very difficult to make contact with all of those four in one plane, or even if they were in different planes. Consequently the electrician would naturally put in spring contacts, and, to my mind,

(Testimony of Frank L. Sessions)

there are spring contacts under this number 34, one of which bridges the gap between g and the unprimed f characters, and the other bridges the contacts between g′ and the primed f characters. (T. 1491)

I do not actually find in the specification a definite statement that there is a second brush. I find no statement as such. It simply calls for similar devices, and if they are similar devices they must be duplicates; they cannot be the same. I do not find any statement that there is a brush 34′, but without it the system is inoperative.

To make this system operate with elevators that are traveling at an appreciable speed, maybe not even high speed, whether you could set the up and down contacts on the floor selector radially in line, I would say the contacts on the floor selector might be radially in line and the brushes 34 and 34′ not in the same radial line, so that 34 would contact with its proper button f a sufficient distance before the car arrived when traveling in the up direction, and the brush 34′ would contact with the f′ series of buttons a sufficient distance before the car arrived at the floor in the up direction.

If the up and down floor contacts on the floor selector are to be radially alined as shown in the diagram, the brushes, if there were two, could not be superimposed directly one on the other in the same radial plane. (T. 1492)

I do not know in detail offhand what departures or additions with respect to the disclosure of the Parker patent in suit have been necessarily embodied in the Otis signal control or the defendants' installations which I refer to, as embodying the Parker disclosure, in order

(Testimony of Frank L. Sessions)

to enable the same to be employed in a bank system of elevators.

I have been through the diagrams of the circuits and have seen the installments, but I do not know in detail. I do not know whether or not any of those departures or additions involve an ingenuity or an originality beyond that constituting mere mechanical or engineering skill.

There is nothing in the nature of a departure or an addition in those installations as compared with the means that are shown and described in the patent in suit necessitated to enable the same to operate at high speed.

(T. 1494)

The elevator would function at high speed if the up and down contacts on the floor selector were radially alined as shown by the diagram of the patent in suit if the brushes 34 and 34′ are properly positioned relatively to the points where they contact with the contacts f and f′.

The brushes 34 and 34′ would have to be out of radial alinement depending upon the distance from the floor at which the slow-down was to be initiated. In the case of a 600 foot elevator, that would depend upon the ratio of reduction between the elevator speed and the speed of rotation of the selector S. That is disclosed in the drawing of the patent in suit or in the specification. The distance is not shown, but the teaching as to when to initiate the stopping is clear. That teaching is restricted as to when the brake is to be applied, but the braking mechanism in my opinion includes any slowing down of the elevator speed.

(Testimony of Frank L. Sessions)

The only mode of operation disclosed in the Parker specification or the Parker drawing is that upon the circuit being completed through the floor selector, the lever that has been electrically latched in running position is unlatched to interrupt the flow of power to the hoisting motor. That may be through any usual known means of stopping. (T. 1496)

As disclosed in the Parker patent, I do not think that operation occurs upon the completion of the circuit in the floor selector without any further movement of the car. The time at which the circuit is interrupted should be such as to permit the proper slowing down and stopping, as the specification on page 5, commencing with line 22, states: "Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual breaking mechanism to overcome the momentum of the car, so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level."

It does not tell how to do that, but it is within the ken of an elevator engineer to know that the power must be shut off before he arrives at the floor, in order to have the car stop at the floor. It is obviously impossible to stop a moving body instantaneously.

As to whether I am an elevator engineer, I am an engineer, a mechanical engineer, familiar with problems of this sort. I am an elevator engineer within the sense that I have used that term. I think I am skilled in the art.

(Testimony of Frank L. Sessions)

I can describe how that is done without tracing the circuits. I could not go and wire up the installation so that it would work in defendants' device without a great deal of study. I think I could do it from my present knowledge. I do not know how it is done at this time without consulting the diagrams. (T. 1497)

The witness was asked whether in the specification of the Parker patent and the drawing, the disclosure is that upon the brush completing the contact between the ring on the floor selector and the contact on the floor selector, the circuit is completed and an impulse set up that releases the lever that has been latched by the car switch, and that disconnects the flow of power to the hoist motor, and that action takes place without any further movement of the car. He answered "No".

As to what other mechanical means that depends on, I would say it is physically impossible for the car to be brought to rest at that time.

Counsel for defendants stated he was using the term "electrically latched" and not mechanically latched.

(T. 1499)

I have the Parker diagram in front of me. Upon the brush completing a circuit between one of the rings on the floor selector and one of the contacts, you set up an impulse or a circuit which releases the lever 4 or 4'. I do not know how far the car would move during that operation.

If the circuit through the push button and selector gaps is made, then the interruption of the main motor control circuit will be effected. I cannot conceive of any further movement of the car happening, because the car

(Testimony of Frank L. Sessions)

is moving when it arrives at that point. The further movement of the car is not required in any way to release this electrically latched lever 4 or 4′, if the control circuit through the push button and selector contacts is made.

As far as the disclosure of the drawing or specification of Parker is concerned, that is coincident with the initiating of the braking operation, and the braking operation is initiated by the release of this electrically latched lever 4 or 4′. So far as the drawings or specification of the Parker patent disclose, the initiating of the stopping of the car or the setting of the brake is dependent upon the release of that electrically latched lever.

The only departure from that arrangement in the Otis signal control is in the matter of the time of applying the brake; the slow down and the leveling operations are brought into effect, and the brake applied to stop the car. The slow-down and braking operation is not initiated by electrically latched lever. The slow-down operation is initiated by the actuating of the control circuit through the push-button and the floor selector. Then the various steps required to kill the Ward Leonard generator are performed automatically by proper relays, and the brake is finally set. (T. 1501)

In the Otis signal control the electrically latched lever corresponding to 4 or 4′ in the Parker patent is not released until the car has been slowed down according to my present understanding of the connections.

4 and 4′ in the Parker diagram are the bridging members which close the main motor control circuit in the Otis practice. Those members are upon a relay switch at a distance from the elevator penthouse. In the Otis

(Testimony of Frank L. Sessions)

system those parts are the circuit-closing relays provided for that purpose. I cannot describe them to you. They are in the penthouse on the control board.

The operation as disclosed in the Parker patent is that the releasing of the lever 4 or 4′ completes a circuit and initiates an impulse that releases the pole-changing switch or direction switch. The part in the Otis signal control system corresponding to the pole changing switch in the Parker diagram is the reverse switches which send the current through the field of the Ward Leonard generator in one direction or another, depending upon whether an up or down movement of the elevator is required.

All of the Otis signal control installations are variable voltage systems. Variable voltage is a multiple voltage. A multi voltage system is one in which there are definite steps of increment of voltage applied to the circuit at considerable voltage values apart, for instance, 30, 60, 120, and 240. That is, broadly, a variable voltage system; but the variable voltage of the Ward Leonard system is one which has an infinite number of steps, the voltage varying from zero to any desired amount in continuous increment. (T. 1503)

I do not know from any inspection of the apparatus I have made what corresponds to the pole-changing switch of the Parker diagram in the Otis multi voltage signal control system, but as an engineer, it must be the reverse switches that are used to send the current through the motor armature in the proper direction.

4 or 4′ in the Parker patent control the circuit that controls or actuates the pole-changing or reverse switch. The part that corresponds to the part 4 in the Otis signal

(Testimony of Frank L. Sessions)

control is the contact upon the relay that is actuated by the making of a contact in the car, that is, the car switch in the Otis system and in the defendant's Pacific Finance installation is not all within the car. The manual operating handle and a contact are within the car, but the part which corresponds to part 4 is not within the car. (T. 1504)

As to what part of the Otis signal control system corresponds to the part 4 of the Parker patent as distinguished from the part that corresponds to the pole-changing switch of the Parker patent, the part that corresponds to the part 4 is the contact upon the relay that controls the current to the pole-changing switch. The pole-changing switch in the Otis signal control is the reverse switch. It is on the switch-board of the control panel. I could pick it out. I know what it is, and I could pick it out of the diagram of the Pacific Telephone & Telegraph installation. (T. 1505)

Witness referred to Exhibit DD, and stated, this is the auxiliary motor Otis signal control or auxiliary motor leveling. I have never seen this diagram before and I would have to study it. I do not think I could pick that out without considerable study, nor the part that corresponds to the part 4 of the Parker patent.

MR. L. S. LYON: Let the record show that the witness has taken some time to see if he could find the part in question in Exhibit DD.

MR. LANE: And let the record show that the witness has no specifications before him, and that he has not testified concerning this at all on direct examination, nor has his attention been called to it at any time.

(Testimony of Frank L. Sessions)

I understand there is a directional switch in the Otis signal control system. The reverse switch determines the direction of the car. That reversing switch is held in operative position during the running of the car, and released at the stopping of the car.

If the car stops normally at the floor without the self-leveling functions coming into operation, it is opened at substantially the time the car comes to rest. If the car does not reach the landing, the switches may be opened and reversed, that is, the current through the car may be reversed in direction or not. (T. 1507)

I have observed the operation of these switches, and I have stated the operation as I understand it from my observation.

I cannot say definitely where the Ward Leonard system is used whether the car is stopped without the leveling mechanism coming into action. I think that the leveling operation comes into action at all times, whether the car underruns or overruns.

The slowing down and leveling is not initiated by the opening of the direction switch. The direction or reverse switches would remain closed until the car was brought to the floor.

I do not know as a fact that the Otis signal control system as installed in the Merchants Bank does not operate in a manner so that the car starts and stops at intermediate floors, and the direction switch is only opened at the terminus of the travel of the car. That might or might not be so. I do not know.

In the Parker disclosure the direction switch opens every time the car stops, and so far as the diagram of

(Testimony of Frank L. Sessions)

the Parker patent shows or the specifications, it initiates the slowing down and stopping of the car. As to whether that is true of the defendants' installations, I think that the direction switch is not opened until the slowing down operation has been initiated; otherwise there would be no circuit through the motor armature. (T. 1509)

The contact upon a relay which is upon the control board in the defendants' installation corresponds to the part 4 of the Parker patent. I do not know but I think I can identify that on the drawings of defendants' device. It would take some study on my part.

The reverse switches which control the direction of current to the Ward Leonard field in defendants' device correspond to the pole-changing switch of the Parker patent.

I think the contact in the defendants' device corresponding to part 4 of the Parker device is not released until the car is slowed down. As I understand it, it is released when the car is very close to the floor level. I do not know of my personal knowledge whether the car is stopped or not before the part is released, except what I have heard here in the courtroom.

I think that the part in the defendants' structure which corresponds to the pole-changing switch of the Parker diagram is released after the part which corresponds to the part 4 of the Parker diagram. I think that is what it would have to be, but I am not sure from actual knowledge. I have not observed the timing of those switches.

The release of the part in defendants' structure corresponding to part 4 of the Parker diagram initiates the circuits that eventually result in the opening of the part that corresponds to the part 4.

(Testimony of Frank L. Sessions)

I am not sure that the release of the part that corresponds to part 4 initiates the release of the part that corresponds to the pole-changing switch. The original initiation is the closing of the push-button and the selector switches. My recollection is that the part that corresponds to the part 4 is released as an intermediate step.

I have seen one of these control boards of panels. I could not tell how many contacts are on it. There are so many contacts that I could not tell how many. I do not know whether there is more than one contact on this particular switch. (T. 1512)

I refer to the up and down switches as corresponding to the pole-changing switches. They are called up and down switches but not up and down push-buttons. The up and down switches are on the control panel or pole-changing switches or reverse switches. They are three names that have been used indiscriminately.

The part of defendants' installation that corresponds to the part 4 is a relay contact upon one of the control panels. It is the one that is actuated by the circuit that is set up by moving the car switch lever into operating position. I cannot locate it as I do not recall just where it is on the control panel. It must be released either before or substantially concurrently with the up and down switch which I have identified.

That is the way in which my understanding leads me to believe it to be operated. I do not know as to the exact timing of it.

The floor selector in defendant's apparatus is constructed in an entirely different manner from the floor selector shown in the Parker patent, so that there is no

(Testimony of Frank L. Sessions)

arm that corresponds to the arm—there is no member that corresponds to the member 34.

The floor selector in the Parker patent is shown to have one contact for up and one contact for down only for each floor. The floor selector switches that are closed by the cams on the revolving drum in the defendant's device correspond to those. Those are the ones that are in the push-button circuits or the circuits that are initiated by the push-button circuits.

I do not know the names of the drums upon the defendant's apparatus and cannot identify the particular switches. As to whether I know whether the parts that do correspond to the contacts f in the floor selector in the Parker diagram are on the drums at all, or in some other device, I would say there are no live contacts upon the drums. There are cams upon the drums that close switches. They are not on the drums. They are adjacent to the drums. (T. 1516)

There are no contacts f or f′ on the hall buttons or car buttons. The selector brush 34 or 34′ actually selects the floor at which the car is to stop in the Parker diagram.

The cam upon the revolving drum that actuates the various switches actually selects the floor in the defendants' device. That is true for the selection of floors in accordance with hall push-buttons in defendants' device. In the hall push-buttons in the defendants' device there is a circuit intermediate the actual push-button circuit and a circuit which includes the two gaps in series. This circuit that is intermediate has one of its gaps closed when the push-button is operated, and the other gap is closed later; but neither one of these gaps is in the

(Testimony of Frank L. Sessions)

original push-button circuit operated by the waiting passenger.

The thing that selects the floor in accordance with the hall push-button in defendants' device is a cam upon a rotating drum. I am sure of that.

There are parts of the defendants' device that correspond to f2, f3 and f4, with and without the primes, of the floor selector of the Parker diagram, made alive by actuation of the push-buttons. Whether that is at the time the buttons are pressed, I cannot answer that yes or no, because the car buttons are different from the hall buttons. They are made alive in the case of the car buttons at the time the buttons are pressed; in the case of the hall buttons there is the intermediate circuit that depends upon the operation of a different signal switch, as where there is a bank of cars as shown in defendants' structure.

The mere making of the contacts alive does not close the circuit. The circuit through the second gap of the push-button circuit is not completed until the cam has rotated to close the switch. (T. 1518)

When the drum rotates to complete that gap and close the circuits, that will not shut off the power to the hoisting motor in the defendants' installation without any further movement of the car to do anything else. The slow-down circuits are actuated and the current is not shut off until the car has proceeded further towards the floor.

The parts that correspond to the contacts f2, f3 and f4, with and without the primes, in the floor selector of the Parker patent, in fact initiate a slow-down mechanism

(Testimony of Frank L. Sessions)

and not a shutting off of the power to the motor. But the slow-down of the elevator is essential in a high speed motor. That is part of the stopping or braking of the elevator.

The impulse that they actuate is essential for the cutting off of the power to the motor, but there are intermediate switches and circuits brought into play before the motor is cut off.

I cannot identify what part in defendants' circuits actually completes the gap in the circuit that shuts off the power to the motor, that it is one of the relays that is actuated during the slow-down operation. I do not know what the relay is actuated by. (T. 1519)

PLAINTIFF RESTS.

(Testimony of Ray E. De Camp)

It was agreed that the original blueprint Exhibit DD might be withdrawn and a photostatic copy thereof substituted. (T. 1520)

RAY E. DE CAMP

recalled on behalf of the defendants in sur-rebuttal. (T. 1521)

Direct examination by Mr. L. S. Lyon.

I can identify this record. This is a bill of material dated September 24, 1925, covering the hood details, including the covers and the fastenings and the handles, which was used and applied after that date on the automatic stopping and control machine at the Petroleum Securities Building, No. 4 car.

It was installed some time after that date. I have seen it in place.

Motion to strike because witness does not know when it was installed.

I first saw it there along in the first part of October, 1925. The last time I saw the No. 4 hoisting mechanism installed in the Petroleum Securities Building without a cover was some time early in September, 1925. The next time I saw it with a cover was in October, 1925.

I installed that automatic stopping equipment on the No. 4 car and tested it and put it into operation. Up to the time I saw it with the hood on for the first time in October, 1925, it had no cover on. It was entirely open. In July I was there practically the entire month,

(Testimony of Ray E. De Camp)

but in June I don't know just how much of the month I was there. (T. 1524)

Order No. M-481-,436 offered in evidence. Objected to as incompetent, irrelevant and immaterial.

This particular sheet was issued on my instructions to Mr. Lyon of our company, to bill out this cover to cover the machine. I saw the billing actually done. The bill was sent out on the date that is marked here, September 24, 1925.

Sheet reoffered in evidence. Objected to as incompetent, irrelevant and immaterial. Overruled. Exception. Sheet marked, received in evidence as Defendants' Exhibit EE.

CROSS-EXAMINATION BY MR. LANE.

I am absolutely sure that no covers of any kind were upon the automatic slow down and stopping machine at the Petroleum Securities Building at any time previous to September, 1925.

I was not present on the occasion of the visit of Mr. Keller to the Petroleum Securities Building. I do not know of my own knowledge what they saw there at that time. I do not know at what time they were there.

The installation was turned over for passenger service on August 4, 1925. I could not say definitely as to when it was completed and put into operation. We were experimenting on it from June until the time it was put in operation August 4, 1925. (T. 1526)

I cannot say just what was the stage of construction about July 1st. I do not know whether the elevator was operated on push-button control at that time, and I cannot

(Testimony of Ray E. De Camp)

say whether the cam-operated mechanism was connected up completely for operation. I do not know when the manual control panel was taken out. I do not know when the new one was put in there. I only know that it was done some time previous to August 1st, as close as I can guess. I know it was done some time between June and August 4th. I do not know the exact date. I am not exactly certain about the definite date, whether the cam-controlled mechanism was completed on July 1st or about July 1st.

The machine was entirely completed in the shop and sent to the job complete, but I do not know exactly when it was turned over to the job, and I do not know whether it was there on July 1st or not. (T. 1528)

This cause was argued orally before the Court on October 14 and 15, 1930, on exceptions filed by the defendants to the Report of the Special Master filed herein on February 25, 1930. No exception was taken or filed by the plaintiff to the Report of the Special Master. The Court ordered the case submitted on briefs following the oral argument. The following statements were made during the hearing before the Court:

"MR. L. S. LYON: There is one thing I would like to caution your Honor against and that is Plaintiff's Exhibit No. 16. They made a diagram that looked as much like the Parker diagram as they could get it and said that that was our system. And the Master rejected

(Testimony of Ray E. De Camp)

that. That should not be used at all. It is referred to in plaintiff's brief, but it should not be used. It shows a floor selector purporting to be in the defendant's system, with a circuit back to the car and all that. And, as the Master says, it is purely argumentative.

MR. LANE: I have admitted that, your Honor.

MR. L. S. LYON: I don't think it ought to be used at all.

MR. LANE: I suppose then, you could not show a gesture under that theory.

In the printed brief filed before the Court on behalf of plaintiff on defendants' exceptions to the Master's report the plaintiff stated:

"The plaintiff took no exceptions to the Master's final report.

This cause, therefore, is before this court solely on the one hundred and twenty-five exceptions to the Master's report filed by the defendants." (p. 3.)

"The issues simply stated are whether the Master was right in holding—

(1) That claims 3, 22, 29, 40, 41 and 65 of the Parker patent are good and valid; and

(2) That claims 3, 22, 29, 40 and 65 of the Parkr patent are infringed by the defendants.' (p. 5.)

In the conclusion to its brief plaintiff urged only that the Master's report be confirmed (p. 202). No question

(Testimony of Ray E. De Camp)

was raised by plaintiff as to the correctness of the ruling of the Special Master as to the invalidity of claim 37 of the patent in suit. At page 21 of its brief plaintiff said:

"The defendants only as questioning the Master's report, * * *."

On July 27, 1931, this cause again came on for hearing on a motion by the defendants to dismiss, filed June 18, 1931. At the hearing defendants offered in evidence a certified copy of the disclaimer filed by the plaintiff in the United States Patent Office on May 1, 1931, of claim 37 and three other claims of the reissue Letters Patent in suit. The defendants also offered in evidence a certified copy of the memorandum opinion and memorandum opinion on re-hearing of Judge Westenhaver in case No. 573 in the Eastern Division of the Northern District of Ohio. At the conclusion of the oral hearing the Court ordered the motion of defendants to dismiss submitted on briefs."

[Endorsed]: In the United States District Court for the Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation, and Llewellyn Iron Works, Defendant. No. M-25-J Equity Agreed Condensed Statement of Evidence on Appeals Herein by Plaintiff and Defendants. Lodged Jun 17 1932 R. S. Zimmerman, Clerk by Edmund L. Smith, Deputy Clerk Filed Jun 28 1932 R. S. Zimmerman, Clerk by Edmund L. Smith, Deputy Clerk

IN THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
-vs-	)	No. M-25-J. In Equity.
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	

REPORT OF SPECIAL MASTER

TO THE HONORABLE JUDGES OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA, CENTRAL DIVISION:

The undersigned, David B. Head, appointed Special Master in the above entitled cause by an order of this court entered January 21, 1929, directing him to take and hear the evidence, make conclusions as to the facts in issue, and recommend the judgment to be entered thereon, herewith submits his report:

Action and Parties. This is an action in equity for infringement of Letters Patent brought by the Otis Elevator Company, a New Jersey corporation, against the Pacific Finance Corporation and the Llewellyn Iron Works, both California corporations. The Llewellyn Iron Works manufactured and installed in a building owned by the Pacific Finance Corporation a group of electric elevators which, the plaintiff contends, embody

the invention and infringe the claims of Letters Patent Reissue No. 16,297. The defendants take issue with the plaintiff by allegations attacking the validity of the patent and by denying that the patent, if valid, is sufficiently broad in scope to be infringed by their structure and, further, that the plaintiff is estopped from asserting a broad scope to those claims allowed in the reissued patent.

By agreement of the parties the cause was set down for the taking of testimony on April 2, 1929, at which time there appeared as counsel for the plaintiff Messrs. Wallace R. Lane, Esq., Clarence J. Loftus, Esq., of Chicago, and Raymond Ives Blakeslee, Esq., of Los Angeles; and for the defendants Messrs. Leonard S. Lyon, Esq., and Richard F. Lyon, Esq., of Los Angeles. The testimony was taken from day to day and on April 16, 1929, all parties rested. Thereafter the parties presented arguments by the filing of written briefs and the matter was taken under submission by the master. During the progress of the hearing and while the cause was under submission the master examined the defendants' installation in the Pacific Finance Building.

The structures in question are all electric elevators. The patent is directed to means for controlling the starting and stopping of the elevator cars. Modern elevator installations consist generally of several elevator cars which are raised and lowered in shafts or hatchways by electric motors located above the shafts. The power mechanism must be subject to such control as to permit the stopping of a car at floor levels to permit the ingress and egress of passengers. Safety of operation is important. Doors are provided at hatchway openings and on the cars. In large buildings speed and accuracy in

operation are essential to efficient service. It is apparent that the art has advanced rapidly in the last few years.

The Patent in Suit. The Parker patent was originally issued August 26, 1924, as No. 1,506,380, on an application filed April 25, 1921. November 13, 1925, an application for reissue was filed and the reissued patent No. 16,297 was issued March 23, 1926. The original applicant, Parker, assigned the patent on November 12, 1925, to the Otis Elevator Company, the plaintiff herein.

Beginning at line 16, page 1, of the patent, the patentee states:

"This invention relates, generally, to a system and means for controlling electric elevators; and the invention has reference, more particularly, to a novel system and means of control whereby the elevator car may be caused to automatically stop in proper alignment with predetermined floor levels by virtue of the actuation or setting up of secondary control means, which may be provided within the car alone, or both within the car and at each floor level; said secondary control means being adapted to cooperate with the master control switch within the car, which master switch is subject to the manual control of the car operator. Furthermore, this invention relates to a system and means for controlling electric elevator cars, whereby the starting of the car, either up or down in the shaft, is entirely and singly within the manual control of the car operator, but whereby the stopping of the car at predetermined points in its ascent or descent may be automatically obtained if desired."

The patent drawing discloses in diagrammatic form an arrangement of circuits and circuit closing means in rela-

tion to an elevator car and its hoisting mechanism, The circuits can be followed on the patent drawing, preferably the enlarged copy, Exhibit 14, on which the circuits have been traced with various crayon colors. Plaintiff's Exhibit 7 in the bound book of exhibits gives the circuits separated from one another in a straight wiring diagram. The car is suspended by a cable that engages a hoisting drum, which is operated by an electric motor, 17. The motor 17 is operated by current which is supplied through, controlled and reversed by, a pole-changing switch. By reversing the flow of current the car can be made to move in either an up or down direction. Current flows from the source of current, wire 12, through wire 25 to the pole 23 of the pole-changing switch, contact 20, wire 27, through the motor 17, wire 28, contact 21, pole 24, wire 26, to the other side of line 13, to move the car in an upward direction. The current flows from wire 12, through wire 25′ to pole 23′, contact 21, wire 28, motor 17, wire 27, contact 20, pole 24′, wire 26′ to wire 13 to move the car in a downward direction. To close the pole-changing switch in either direction or interrupt the flow of current through it a switch, numbered 1, is located within the elevator car. A manually operated lever 8 can be moved to carry the switch arms 4 or 4′ to bridge the contacts 10 and 11 or 10′ and 11′. The unqualified numbers relate to the up circuits and switches; the prime numbers to down circuits. Generally the description of an up circuit could without change be read on a down circuit. When contacts 10 and 11 are bridged by the operator's moving the manual switch two circuits are set up. One of these is from wire 12 through wire 14, contact 10,

plate 9, on arm 4, contact 11, wire 15, through solenoid 16, to the other side of the line, wire 13. This circuit energizes the coil 16, closing the pole-changing switch at the gaps 24-21 and 23-20, which permit the current to flow to the motor, moving the car upward. The second circuit that is set up is through wire 14, contacts 10 and 11, by plate 9, through coil 32, wire 33, to wire 13. This is the circuit energizing the coil 32 which holds arm 4 in closed position. The lever 8 can be returned to its neutral position without breaking the circuit through the coil 16. The operator within the car has no further control over the car movement through the manual switch, as the arm is locked in circuit closing position.

For stopping the car another separate system of circuits and switches is provided. Likewise stopping circuits are separately provided for up and down movement. Forming a link in each circuit is the floor selector which is synchronized with the car movement. Upon the selector is switch plate S, carrying a series of contacts, f-2 and 2′, f-3 and 3′, f-4 and 4′, corresponding to the floors in both up and down directions. An arm 34 as it rotates will successively bridge the rings g or g′ and contacts f or f′. The rings g and g′ are connected to the other side of the line by wires 36 and 38, and 36′ and 38′ which pass through the coils 37 and 37′. In the car is a series of buttons, one up and one down button for each floor. On each floor are two buttons, one up and one down. The floor selector and the car and floor buttons are connected in the secondary or stopping circuits. In each stopping circuit there are circuit closing means manually operable, located in the car or at the floor landing and

a secondary circuit closing means which is automatically closed by car movement. To complete a secondary circuit it must be closed at the selector and at either the floor button or the car button. Taking, for illustration, the second floor up-circuit,—it can be traced from the positive source wire 12, through the wire n-2 to contact j-2. The contact j-2 when actuated by the push button contacts with l-2, completing a circuit through the wire o-2, contact in the car p-2, arm c-2, wire h-2 to the contact on the selector plate f-2. When the car in its travel reaches a predetermined point on its upward travel the arm 34 bridges the contact f-2 and the ring g. This permits the current to flow from the contact f-2 to ring g, through wire 36 to coil 37, and wire 38 to wire 13, completing a circuit. The coil 37 being wound in opposition to coil 32, this neutralizes the action of coil 32, releasing the contact arm 4, and breaking the previously set up circuit through coil 16. This in turn breaks the circuit to the motor at the pole-changing switch, stopping the car. A second floor stopping circuit can be set up by pressing the car button a-2, which sets up a circuit from the wire 35, which is in connection with the positive source wire 12, through the contacts p-2 and d-2, wire h-2, to contact f-2. Thereafter the circuit is completed and current to the motor interrupted as explained above. The operation of stopping circuits for other floors can be followed by using the same letters with the different numbered suffices, and the down circuits by using the prime characters. When a secondary or stopping circuit is completed the solenoid e corresponding to the floor is energized, resetting the switch in open position.

In operation the car in charge of an operator receives passengers at the ground floor. As each passenger calls his floor the operator presses the corresponding car button for that floor, setting up on the selector a corresponding circuit. When ready to start he moves the lever on the manual switch to the up-starting position, which starts the car through the circuits to the pole-changing switch and the motor. He then returns the hand lever to neutral. When the car approaches one of the selected floors the movement of the selector completes the stopping circuit, bringing the car to a stop. The passenger leaves the car and the operator manually starts the car again by moving the hand lever to the up position. After the car starts he returns the lever to neutral and the car again stops when it reaches the next selected floor. If a passenger wishes to board the car at an intermediate floor he depresses the button at the floor landing. This sets up a circuit, as previously described, which when closed by the movement of the selector brings the car to a stop at the floor. After the passenger enters the car the operator again manually starts the car.

Certain statements in the patent specifications are to be noted. Referring to the then known usages in the art, the patentee states:

"No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch within the car itself. It is intended to retain the positive features of manual control, but to add to such an electric mechanism which, upon being previously set, will interrupt the main driving or power circuit at predetermined points in the line of travel of the

car. This electrical mechanism becomes operative upon the simultaneous fulfillment of two conditions, one condition being the closing of a manually actuated secondary switch, under the control of the operator within the car, or, if desired, under the control of a passenger on a floor level at which the latter desires the car to stop so that he may enter the same, and the other condition being the automatic closing of another secondary switch in the same circuit, which momentarily occurs when the car reaches the desired floor level." Page 1, lines 49 et seq.

"Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level." Page 5, lines 23 et seq.

The patent does not disclose means for slowing down, stopping, and braking the car. It appears that Parker intended to use some system of slowing down, stopping, and leveling then in use that could be adapted to his control means. He knew that such systems existed but did not know of their specific structure and operation. That Parker knew little of electric elevator practice is evident from the many defects to be found in his specifications. This does not detract from his standing as an inventor, provided that his specifications give sufficient information to the elevator engineer to enable him to embody the invention in a successful elevator.

As to the operativeness of the disclosure, the first objections are raised by defendants' Exhibits V, W, and

Y. These arise only on the assumption that the selector arm 34 is at all times in contact with the rings g and g′ and that it bridges contact f and f′ and rings g and g′ at the same time. If such is the case the intended operation of the structure is thwarted. Defendants' expert's admission that one skilled in the art would build the selector in such form that the circuit bridging member would not bridge the rings or simultaneously bridge the up and down contacts sufficiently answers the objection. Although the specification is incomplete in not showing in the drawing another arm, 34′, or some equivalent means of separating the selector circuits, it is not a fatal defect in that the art was sufficiently advanced in skill and knowledge to supply the deficiency.

Further, as to operativeness, it is objected that the patent does not disclose means for automatically slowing down and stopping the elevator level with the floor. Unless the system can be used with high speed elevators to bring them to a stop effectively level with the floor, it is of little utility. The evidence shows that at the time of the Parker disclosure the elevator art had advanced to such a degree that upon the manual operation of a car switch all further steps in deceleration and stopping a car level with the floor landing or returning it to the floor landing if stopped beyond the landing could be automatically accomplished.

Even if Parker had not specified his intention to use "the usual braking mechanism", he would be entitled to have his disclosure read in the light of all the knowledge then possessed in the art. If Parker's control means could be used successfully, in combination with or modified by anything that the elevator art then possessed, the patent

is operative and useful. This point will later be considered after an examination of the other structures in question.

Prior Art. Defendants' answer and amendment to answer set up various prior patents as anticipating the disclosure of the patent in suit.

The Ihlder patent of 1902 is the closest reference. It shows a control for an electric elevator which includes means for automatically stopping the car at a previously designated floor. Push buttons are provided at the landings and in the car, the operation of any one of which sets up a circuit which starts and maintains the car running, and a second circuit which, through a selector, brings the car to a stop at the desired floor by breaking the running circuit through the motor. The control can be used only to move the car to one floor and stop it. It cannot be operated to stop at successive floors nor stopped by a waiting passenger while it is in motion.

"Again the system is non-interfering, in that when a push button at one floor has been pressed the pressure of any push button at other floors will not interfere with the operation of the elevator." Page 1, lines 56 to 60, Ihlder Patent.

One of the principal features of the patent in suit is that it provides a means whereby a passenger can stop the car and enter it after it has been started by the operator. The Ihlder control provides means for starting the car from a landing, a feature that would be undesirable in Parker's control. Ihlder does show a floor selector much the same in principle as Parker's. The differences in function pointed out result from differences in structure. There is no holding circuit in Ihlder which can be broken

by any stopping circuit set up either in the car or at the landings. The running circuit once established can be broken only by one stopping circuit, the selection of which is made when the car is started.

The patents Nistle (Exhibit X14) and Crouan (Exhibit X-1) show means for controlling an elevator by a rope. These mechanical controls are in no way analogous to control by means of electrical circuits. The patent to Ongley (Exhibit X-6) provides for the stopping buttons at the landing and a single stop button in the car which, when held in a depressed position, brings the car to a stop at the nearest landing. Buttons are provided at the landings and in the car for starting the car. Structurally and functionally it is different from Parker's control.

Other prior art references, such as Worthen (Exhibit X-15), Strohm (Exhibit X-10), and the others not particularly emphasized in the evidence or briefs, are not pertinent.

Nothing in the prior art shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing. To obtain this result Parker has taken from the prior art the usual starting circuits. This is his circuit through contacts 9 and 10 and coil 16 which closes the pole-changing switch. Passing through the coil 32 he has added another circuit not found in the prior art. This circuit is set up by the bridging of the contacts 9 and 10 and it results in removing the control from the operator's manual switch. The idea of a self-holding

switch was not new but the application of that principle here is novel. Thereafter he has provided secondary circuits which are independent of the starting and running circuits, which are closed by two sets of switches—first, at buttons in the car or at the landings and, second, at a selector which is synchronized with the car movement. These circuits run from one side of the line through floor and car buttons to the selector contacts, thence through the coil 37 to the other side of the line. The completion of one of these circuits energizes the coil 37 and cuts the running circuit at the pole-changing switch. While in actual practice the closing of a secondary circuit sets up a complicated sequence of decelerating and stopping circuits, nevertheless, the secondary circuits of Parker suggested an entirely novel means of initiating the stopping operation. In Ihlder are found secondary circuits, but these circuits are not set up independently of the starting and running circuits. The selector and switches described by Parker were not new. The actual form of his car switch is possibly a new form of a self-holding switch but it is evident that his form of switch was not an improvement. It was but a crude conception when compared with older means. At that time engineers had learned to put as many of the control circuits as possible in the penthouse and not in the car. It would be a step backward to bring the secondary circuits through the car.

Most important to consider is the general condition of the art at the time of Parker's application. By this time engineers knew how to build elevators, which were started by an operator in the car and were stopped by the operator's throwing of the manual switch into neutral either in response to a flash signal from a landing or at the

request of a passenger. The opening of the manual switch set up an elaborate series of automatic operations which slowed down, stopped, leveled the car, and braked the mechanism. Practically all of these features are found in plaintiff's and defendants' present installations. Also available to the art were devices of the character of the Randall signal machine. (See patent of Smalley and Reiners, Exhibit X-11). These machines received signals from hall push buttons through the main signal panel and relayed the signals to the first car to approach the signalling floor in the direction indicated. The signal reached the car as a light flash. In response to the flash the operator manually operated the car switch to initiate the stopping of the car.

In brief, the elevator art at the time of Parker's application had developed high speed elevators in which the starting and stopping were initiated by the operator's closing and opening a switch in the car in response to a signal from a hall button or the request of a passenger. Acceleration, deceleration, and leveling could be done automatically after the operator initiated the operation by his car switch. Selectors had been developed which would complete a circuit to stop the car. These were used in the so-called push-button elevators which the patent to Ihlder illustrates.

The evidence establishes that the patentee, Parker, after making his application for Letters Patent submitted his application to the Otis Elevator Company. Thereafter, the Otis Elevator Company installed their so-called "Signal control" elevators in the Standard Oil Building in New York and purchased the Parker patent for a small sum. Since that time the plaintiff has made a number

of installations of this type of elevator, particularly in high office buildings where speed and accuracy of operation are most desired. One of these installations was in the Pacific Telephone and Telegraph Building in San Francisco. A wiring diagram of this installation is in evidence as defendants' Exhibit DD. Plate V (plaintiff's Brief) is a straight line diagram of the important circuits. Particularly to be noted is that when the car is started from the manual car switch contact SS, setting up a circuit through director switch B, contact 2-U, and relays N. U, and V, relay N simultaneously sets up another circuit through the direction switch B. Thereafter the running circuits are maintained by this circuit independent of the car switch, which can be returned to neutral. The car stops when circuits set up through either a car button or hall button are completed by the selector, shorting out coils of relays U and V, which permits the pawl magnet to initiate a slowing down, stopping, and leveling sequence. This brings the car to a stop, during which operation the coil B on the direction switch is de-energized, breaking the running circuit.

In this structure is found (1) a circuit controlled by a car switch to start the car, (2) a holding circuit which maintains the running circuits independent of the car switch, and (3) secondary circuits with manual circuit closing means located in the car or at the landing and automatic circuit closing means on a selector, for interrupting the running circuit and stopping the car. As will later appear, these are the elements of the Parker invention. The conclusion is reached that as a part of the Pacific Telephone and Telegraph Company installation the plaintiff followed the teachings of Parker's disclosure.

In commercializing their "signal control" elevators the plaintiff has met with success. This success is due, in large measure to those features that resulted from Parker's disclosure. Parker's automatic control has eliminated the difficulties which resulted from human error such as operator's forgetting floor stops and passing waiting passengers. It also permits the use of less skilled operators and relieves the operator of the greater part of his former responsibility. Many advantages claimed for the elevators by the plaintiff are not due to Parker's teachings but rather to automatic decelerating and self-leveling. For example, the elimination of stops above or below the landing cannot be attributed to Parker who goes no further than to say that he contemplates the use of the usual braking mechanism. Parker's disclosure, divided into its elements, shows in combination:

(1) An old form of starting circuit control through a car switch;

(2) A novel means of holding that circuit closed independent of the car switch, and

(3) A novel means of stopping the car by releasing the holding means through secondary circuits closed by manual operation of a switch either in the car or at the landing and by the automatic closing of a switch by car movement.

The plaintiff puts in issue Claims 3, 22, 29, 37, 40, 41, and 65.

Claim 3 reads as follows:

"The combination with a guided movable body of an electrical controlling circuit, a switch on said body manually operable for closing said circuit, means holding

said switch in circuit closing position, and selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel, said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected stopping point."

Claim 3 was allowed in the original patent No. 1,506,380. This claim follows strictly the actual structure disclosed in Parker's specifications. It is a valid claim.

The first element, "an electrical controlling circuit," is found in the circuit set up by the bridging of contacts 10 and 11 or 10′ and 11′, which throws the pole-changing switch and starts the car.

The second element, "a switch on said body manually operable for closing said circuit and means holding said switch in circuit closing position", is found in a self-holding switch arrangement, contacts 10 and 11, arm 9 and coil 32.

The third element, "selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel, said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected stopping point," is found in the circuits controlled either at the car buttons or the floor buttons and at the floor selector in the penthouse. This claim is interpreted as referring to both the floor and car buttons as "manually

operable circuit closers." The defendants have contended that by referring to "a switch on said body" and "selective means for actuating the release of said switch holding means" that the claim is limited to a structure wherein the starting switch and the means for holding the starting switch in running position is located within the elevator car. Undoubtedly, the structure disclosed by Parker shows such an arrangement. However, this does not preclude the plaintiff from claiming a range of equivalents as broad as the state of the art and the file wrapper history show the patent to be entitled to. Such has been the rule since Winans vs. Denmead, 15 How. 330; the Ninth Circuit Court of Appeals in Kings County Raisin & Fruit Co. v. U. S. Consolidated Seeded Raisin Co., 182 Fed. 59, page 63, restates the rule. Inasmuch as the means which Parker discloses for holding the running circuits closed independently of the manual switch and the means for releasing the running circuit to stop the car automatically has no antecedent in the elevator art, the patent is entitled to a range of equivalents that will cover any other means which accomplished the same result in substantially the same way. If the means for holding the running circuit and automatically releasing that circuit differ from Parker only in the place of installation, that means is clearly an equivalent. The novelty found in Parker's combination does not depend upon the particular point where and breaking means are located but rather in the arrangement and inter-relation of running and stopping circuits with circuit closing and breaking means to accomplish the automatic stopping of the elevator car.

Claim 22 reads as follows:

"A control system for an elevator car comprising a plurality of control means, one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated, and only one control means for causing the starting of the car, said one control means being operable only from within the car."

Interpreted in the light of the specifications, the "control means" described above cover the stopping of the car through the circuits controlled by the floor buttons and the floor selector. This relates only to that part of the structure which controls stopping from the hall buttons. The defendants insist that this claim reads upon certain prior patented structures, Strohm (Exhibit X-10), Ongley (Exhibit X-6), Smalley and Reiners (Exhibit X-11). The "control means" referred to are described in the specifications which further define the claim. The control means referred to consist of circuits controlled by the hall buttons which, after a hall button has been depressed, is automatically completed to stop the car. None of the prior art references disclose an automatic system of this type and the claim when read in the light of the specifications is valid.

Claim 29 reads as follows:

"A control system of the type wherein an elevator car is driven by means of power mechanism, and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car or a switch at the landing, characterized by the fact that means are provided only in the car for causing the operation of the power mechanism to start the car."

This claim is directed to the stopping means which include the manually operable circuit closers within the car and at the landings and the mechanism controlled by them and is limited to an installation wherein the car can only be started by the operator within the car. This limitation, which applies to all the claims in issue, avoids conflict with prior structures such as that illustrated in the patent to Ihlder (supra). The claim is more descriptive of the function than of the structure. That the use of such expression in the claim does not invalidate the claim is evident from an examination of claims of such character that have been upheld. Examples can be found in the Paper Bag case, 210 U. S. 405, and other cases in which the Paper Bag case is usually cited as the principal authority. The validity of the claim depends upon reading it in the light of the specifications which in effect, limits the claim to those elements of the structure, the function of which is described.

The defendants argue that this claim is a mere aggregation of old elements, and not a true combination. This contention is without merit. As pointed out before, the control means specified by Parker resulted in more than a better elevator control. It resulted in a new control means, toward which each of the elements contributes and co-acts with the others to produce.

Claim 37 reads as follows:

"A control system for an elevator car comprising a plurality of up switches within the car, one for each of a plurality of landings, and a plurality of up switches without the car, one at each of said landings, both the up switches within the car and the up switches without

the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction; a plurality of down switches within the car, one for each of said landings, and a plurality of down switches without the car, one at each of said landings, both the down switches within the car and the down switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction; and switching mechanism within the car, said switching mechanism being operable to cause the starting of the car from each and every landing in either direction."

This claim mentions the up and down switches both in the car and at the landings, ascribing to them the function of automatically stopping the car. The switches which are in the form of push buttons are only a small part of the combination of means which effect automatic stopping. The holding circuit and the secondary circuits and automatically operated circuit closing means for re-relasing the holding circuit must operate to produce the result described in this claim. The circuits and circuit closing means are not included in the claim in any way even in general terms, such as the "means" or "mechanism" found in the other claims. This description of the result without reference to structure cannot be read on the structure with sufficient accuracy to define the claim. While the inclusion in a claim of language describing function or result does not render the claim invalid, nevertheless, the claim must include such definition of structure that the elements of the structure claimed can be identified. It must also be considered that the other claims amply pro-

tect the invention. It is concluded that Claim 37 does not comply with Section 4888 of the Revised Statutes and is, therefore, invalid.

Claim 40 reads as follows:

"A control system for an elevator car comprising a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches, one for each of said landings, start control switching mechanism and car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction and responsive to said start control switching mechanism to start the car."

This claim is directed to the up and down stop switches and the circuits and mechanism controlled by them which function to stop the car only when traveling in the direction corresponding to the switch which is operated. The mechanism for starting and stopping the car, controlled by the switches referred to constitutes the same combination of circuits and switches as previously examined under Claim 3. Consequently, the claim is valid.

Claim 41 reads as follows:

"A control system for an elevator car comprising a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches, one for each of said landings, start control switching mechanism,

car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction, and responsive to said start control switching mechanism to start the car, and means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car is traveling in said other direction and in response to said additional stop switches when the car is traveling in said one direction."

This claim is the same as Claim 40 with the exception of the added limitation. The means by which this is accomplished in Parker is found in the arrangement of contacts and holding means and the relation of secondary circuits to them in his car switch. This claim is valid.

Claim 65 reads as follows:

"A control system for an elevator car comprising a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches, one for each of said landings, and means responsive to the first named switches to stop the car at the landings corresponding to the first named switches operated, only when the car is traveling in one direction, and to the additional switches to stop the car at the landings corresponding to the additional switches operated, only when the car is traveling in the other direction, regardless of the position of the car when the various first named and addi-

tional switches are operated or the relative order in which the various first named and additional switches are operated."

This claim refers to means which are the circuit closing means which set up independent and non-interfering circuits to the selector and the selector. These complete the stopping circuits consecutively regardless of the order in which they are set up. The term "stop switches" as used above reads on either the hall or car buttons or both. The means which function to accomplish the results particularly specified here are found in combination previously discussed under Claim 3. This claim is valid.

All of the re-issued claims include language which is descriptive of the function of the Parker control and specify "means" or use other particular language in referring to the structure. It being necessary to refer back to the specifications to determine the exact circuits and mechanism which function as described in the claim, it is found that Claims 29, 39, 40 and 65, with certain functional limitations, read upon the same combination, which is the combination of Claim 3. Claim 41 is narrowed by the addition of other descriptive matter. Claim 22 covers a sub-combination.

However, in considering a question of infringement arising on these claims it is necessary to follow closely the actual disclosures found in the specifications, considering the limits there disclosed and determining equivalency of means rather than identity of function. This is difficult, in that the plaintiff has emphasized the functional similarities in the structures in question, while the defendants have gone extensively into the differences in form between

them. In inatallations as complicated as these the differences are many.

The invention of Parker is an important one. Coming from one not trained in the art, it has taught the art a new means of control that solves many old problems. That it was contributed by an outsider negatives any theory that it was an obvious step. Otherwise, elevator engineers would have accomplished it long before Parker. He was fortunate in addressing his disclosures to a well advanced art, which was in position to supply the many deficiencies in his specifications. That there were many deficiencies in his scheme is evident from the form in which the plaintiff reduced the disclosure to practice. Nevertheless, the substance of the invention was disclosed in his crude specifications. The art could and did understand and apply them to practice. This is sufficient, and the invention, judged by the results, is a radical step forward. Parker is entitled to high standing for the inventive thought expressed in his patent.

The Pacific Finance Building Installation consists of four cars with an approximate speed of 600 feet per minute. When operated en banc the cars are manually started by an operator and automatically slowed down, stopped, and leveled at floor levels previously determined by the manual operation of the push buttons on the landings or in the car. The cars are hoisted and lowered by motors located in a penthouse above the shafts. The controls located in the car are a manually operated starting switch with separate up and down contacts and a series of push buttons, one for each floor. (See defendants' Exhibits 1-8 and 1-9.) At each floor are two push button contacts, one up and one down. In the penthouse above

the motors is a series of drums, operated in synchronism with the movement of the car by the rope on the drum, 1 (Exhibit 1-2.) Looking at the photograph (Exhibit 1-2), on the extreme right is the primary slow down drum carrying cam operated switches, which initiate the stopping of the car. Next to this is the secondary slow down drum carrying switches, the successive operation of which further slows the car's speed and finally transfers the control to the leveling drum 4. Drum, 4, carries the switches, the operation of which finally brings the car to a stop level with the floor and sets the brake.

The installation includes a hall signal panel (Exhibit 1-5) and Randall signal machines (Exhibit 1-4), one for each elevator. The hall signal panel receives signals from the hall push buttons and transfers them to the Randall machines. Each Randall machine is synchronized with the movement of the elevator.

The installation includes several hundred circuits with a multiplicity of circuit closing and breaking means, safety devices, and interlocks. The photographs (defendants' Exhibits "I", 1 to 9 inclusive) accurately show the external appearance of the driving and control means. Plaintiff's Exhibits 4-1 and 4-X are photostatic copies of the wiring diagrams used by defendants' engineers in installing the elevators. Plaintiff's Exhibit 16 is argumentative rather than illustrative. In tracing circuits it is much easier to use defendants' Exhibits O-1, O-2, O-3 and O-4. These are straight line diagrams in which coils and contacts are separated and shown in their relation to the circuits rather than in their physical relationship to each other. The blue ink symbols have been added to the diagrams to permit cross reference to the photographs,

Exhibits "I", 1 to 9. In following the circuits on the diagrams occasional reference to the photographs will assist in interpreting the symbols found on the diagrams. It is only with the assistance of expert engineers that the lay mind can reach an understanding of the simpler diagrams. Plaintiff's Exhibit 4-X illustrates the extreme complexity of the whole structure.

The full operation of the cars involves the manual closing of several switches: (1) The door closing switch, (2) the car starting switch in the car, and (3) the car stopping switch at the landing and in the car.

The closing of the doors preparatory to starting the car is accomplished by the operator closing the latch switch in the car, which energizes the relay 41 (Exhibit O-3) and in turn the magnet which permits the compressed air mechanism to close the door. After the operator closes the door he throws the car switch to the up position which closes the gap between the up contacts on the car switch, thus energizing relays 46 and 45. Relay 46 energizes the contactor 27 which closes the up direction circuit contacts 1 and 3. Relay 46 also energizes the brake releasing contactor 29 and relay 49. Relay 49 by its normally opened contact U-T-1, sets up a circuit through the coils of relays 46 and 45, which hold them in circuit closing position after the manual switch is returned to neutral, breaking the circuit through D-U and I-U. This can be seen in Exhibit O-3. In section 1-E of the drawing are the manual switch contacts. In section F-1 is the contact U-T-1 (Relay 49), both of which are in the circuit with coil of relay 46. When the circuit through the wire 1-U is broken the holding circuit then runs through contact 3, lines 1-S and D-U-F, con-

tact U-T-1, coil of relay 45, line N-1, coil of relay 45, line N, normally closed contact C-R-1 to L-L-2 (Section F of the Exhibit O-3.)

Resistance is inserted which is cut out at successive stages by switches on the governor and relays 16, 18, and 30 to give a smooth start. Relay 45 when energized closes contact N on the main switch 48, which connects the armatures of the generator to the armature of the motor. Driving power is furnished through a Ward Leonard generator and motor set. It is needless to examine this further than to observe that a motor and generator are arranged so that by varying the strength of the generator field the amount of power delivered to the motor is varied and the speed of the elevator controlled. Defendants' Exhibit N, Fig. 10-A, shows the power circuits, with the contacts, which are used in starting and stopping the car. The important contacts are contact M on switch 48, contacts 1 and 3 and 2 and 4 on contactors 27 and 28. To the right of the page is shown the resistance controlled by contacts on relay 16, 18, 30, 6, 7, 8, 9, 10, 11, 12, 13, 14 and the governor switches. Fig. 10-B shows the brake circuits controlled by contacts 1-B and 3-B on relay 29.

Contact M is closed when contactor 47 is energerized by the closing of the circuit through its coil by relay 45. When all resistance has been cut out the car will be driven upward at full speed and the operator will have returned the operating handle to neutral. The operator is unable to stop the car by the use of the manual switch. When moving upward the contacts 1 and 3 on the contactor 27 and contact M on contactor 48 are closed; contact U-

T-2 on relay 49 has energerized switches 3-E and 3-O (see Sections 1-C, Exhibit C-4)

The car can only be stopped by circuits which pass through the hall or car stopping buttons. If a car button is depressed it sets up a circuit to one of the 2-U switches on the primary slow down drum. When the car approaches the floor a cam on the drum closes the switch 2-U and sets up a circuit through the coil of either the odd or even stopping circuit establishing relays h-E or h-O (numbered 4 and 5), which in turn close either relays O or E, which are self-holding. At the same time a small amount of resistance is thrown into the main motor circuit. Thereafter the movement of the car transmitted through the secondary drum closes either the 3-E or 3-O switches operating in sequence the relays 6, 7, and 8, which in turn are followed by timed relays 9, 10, and 11, to cut in successive stages resistance into the motor circuit and bring the car to a slow speed. The second 3-O switch, 3-O-2, energerizes the coils of the switches 4-M-S on the leveling drum. The first of these switches to ride off the cam on the drum cuts the motor circuit at the 1 and 3 contacts of the direction switch 27 and sets the brake. The car is then about three-quarters of an inch from the landing and it normally stops approximately at the landing. If the car rides past the landing one of the 4-M-S switches on the leveling drum sets up a circuit to bring it back to the landing. Since the car was started, circuit establishing relay 45 has been held closed, contact U-T-1 on relay 40 in turn keeping contacts 1 and 3 on contactor 27 closed. At the time the 4-M-S switches are energerized by the back contact on relay 10 a circuit is set up which holds the direction con-

tactor 27 independent of the circuit set on starting. This first holding circuit is broken when the last 4-M-S switch rides off the cam. When relay 10 closes, the magnets of the switches on the leveling drum are energerized and later relay 44 transfers control to these switches. The further movement of the leveling drum closes the switches which breaks the circuits and stops the car. Two or three seconds after the car has stopped, the switch connection M between the generator and the motor falls out. During the stopping operation the doors are automatically opened by a relay in series with one of the stopping circuits. Stopping from the hall buttons is a more complicated operation. The circuit set up when a hall button is depressed is relayed to the first car to approach the landing in the desired direction. In order to accomplish this the hall button circuit closes a self-holding relay on the main signal panel, which in turn energizes a corresponding contact on each Randall signal machine. Thus a circuit is set up to each elevator. As the contactor on the Randall machine moves in synchronism with the elevator car the first car to approach the landing completes the circuit through the Randall machine and the relay P-L-1. Relay P-L-1 completes through its contact P-L-3 a circuit to the contact 2-U-2 on a primary drum switch. When the drum movement closes the 2-U switch a circuit is completed to either the odd or even, establishing relays H-E or H-O. From this point on the stopping operation is the same as in the case of a car button stop. When the door is closed preparatory to again starting the car the relay in the signal panel is reset in open position. If another car comes within the signal range for that floor before the door of the first car is closed the second car also

will be stopped. Separate odd and even stopping circuits are provided due to the fact that the decelerating range is in excess of the distance between floors. Down operation is the same as up operation using separate circuits, with the exception of three stages of resistance used in both up and down stopping. The complete installation includes many hall signal, car annunciator, emergency stop, and safety device circuits, the consideration of which would not be pertinent.

The San Diego installation. Over defendants' objection, evidence was received relevant to an installation of elevators by the defendant, Llewellyn Iron Works, in the San Diego Trust and Savings Bank Building in San Diego, California. The evidence shows that the specifications and drawings were prepared in May, 1927. The work of installing was done after the filing of plaintiff's Bill of Complaint in this action. The master has not considered this structure and now strikes, without prejudice, all evidence relating thereto on the ground that it has not been brought within the issues. To bring another complicated structure into this action would be confusing and would tend to complicate an already complex case. Once the validity and scope of the patent in suit has been determined and a decree entered it will not be difficult to consider this structure if brought in under a Supplemental Bill. This further consideration is sufficient in itself to justify exclusion of the San Diego installation. Equity Rule 26, while permitting broad joinder of issues, is subject to limitation in the interest of convenience.

In considering whether or not the Pacific Finance installation embodies the invention of the Parker patent

and infringes the Parker claims, the differences between the two control systems will be examined with the idea of determining whether these differences are fundamental in character or fall within the range of equivalents to which Parker is entitled.

The following differences in form have been stressed by the defendants:

1. In the Pacific Finance installation the means for holding the running circuits closed is located on the control board in the penthouse and not within the car, as specified by Parker. The holding means found in the defendants' system consists of contactors and relays which are closed by momentary bridging of the operator's drum switch and are thereafter held by circuits which are set up at the same time. It is evident that Parker specified his self-holding switch's location within the car in ignorance of the practice then followed by workers in the art, which are aimed at removal of as many circuits as possible from the car. Relays which controlled contactors in the penthouse were extensively used before Parker and use may be made of such means in applying Parker's invention to practice. The location of the holding means in the penthouse is dictated by previous knowledge in the art. It is well settled that the disclosures of the patent must be considered in view of the condition of the art and the skill possessed by those working in the art at the time the disclosure was made. The conclusion is reached that the holding means used by the defendants is equivalent to the holding means specified by Parker.

2. The defendants used in their installation a highly developed means of automatically accelerating, decelerat-

ing, and leveling the elevator car. This does not constitute a difference between the structures of the patent and the defendants' structure, in that Parker specified no means of accelerating, decelerating, or leveling the car but relies upon the art to supply some appropriate means. As previously observed, the art could at the time of his disclosure, supply such means. That the defendants used a system which may possess great merit or invention over previous system is immaterial. In Stebler v. Riverside, 205 Fed. 735, the Circuit Court of Appeals for this Circuit held that any further invention in the infringing structure is immaterial if the defendants have also used the invention of the patent in suit.

It is further argued that Parker discloses means adapted only to the practice of simultaneously breaking the running circuit and stopping the car and that the defendants do not follow Parker in the operation of their high speed system. It is reasonable to assume from the patent that the stopping should initiate sufficiently in advance of the landing to permit the timely operation of the decelerating and stopping mechanism. The patentee so states (page 5, lines 23 to 30):

"Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level."

If it was necessary to use odd and even circuits to allow "timely operation of the usual braking mechanism" the art was in a position to supply that need. To do so would

not be a departure from the teachings of the patent. Parker teaches the use of automatic stopping circuits to initiate the stopping of the car. He depends upon the art to supply the mechanism necessary to complete the stopping operation. The defendants' installation is sufficient proof that the art could supply satisfactory means.

3. The defendants' system is adapted to a bank of elevators while Parker discloses only a means of controlling one elevator. It is further to be noted that Parker runs his hall button circuits through the elevator car. The defendants have separated the hall and car buttons circuit which is necessary for the proper operation of elevators en banc. There is nothing in Parker that would indicate that the running of the hall button circuit through the car is essential to his system of operation and the separation of these circuits would require nothing more than ordinary engineering skill. Whether or not it requires unusual skill or further invention to adapt the Parker system to the operation of a bank of elevators is also immaterial under the rule referred to before.

4. The defendants use direction switches and separate circuits for determining the direction of movement instead of the old-fashioned pole-changing switch shown by Parker. The pole-changing switch specified by Parker is not a part of his invention but is acted upon by circuits in his control system. In applying the Parker disclosures to practice any satisfactory means for determining and reversing the direction of travel which may be controlled by the Parker control circuits may be used.

5. Defendants used a single panel of car buttons where Parker used a separate set of buttons for up and down operation. The defendants provide in their structure a

tripping arrangement whereby the buttons are switched over to control separate sets of circuits for up and down operation. The use of one set of buttons to control alternately two separate sets of circuits, which are the same circuits controlled by the separate sets of Parker, appears to be only a matter of expediency, and not a departure from the teaching of the patent.

6. The defendants do not reset the signals after stopping has been made until the resetting means is operated by the closing of the hatchway doors. In Parker the signals are reset by the solenoid e which are in circuit with the secondary circuits. The resetting of signals is old in the art, it having been worked out in connection with the signals used in manual operation. In applying the Parker disclosures any suitable means can be used.

In all other respects the control means used by the defendants and the control means specified by Parker are identical and in those features in which the two systems are different it is the master's conclusion that the differences result from the use of means which are equivalent to the means disclosed by Parker.

As previously stated, the Parker invention consists of a combination wherein:

(1) There is a starting and running circuit which can be closed to start the car by a manually operated car switch. This is expressed in Claim 3 as

". . . an electrical control circuit, a switch on said body manually operable for closing said circuit."

This is found in defendant's device in the circuit through the car switch to relays 45 and 46, the closing of which closes the direction switch, the main switch, 48, and relay 49.

(2) Means are provided for holding that circuit closed independent and free from further control by the operator. This is referred to in Claim 3 as

". . . means holding said switch in circuit closing position."

This is found in the circuit set up by contact U-T-1 on relay 49 which holds relays 45 and 46 in circuit closing position, in turn holding the direction switch in running position.

(3) The stopping of the car is accomplished by releasing the holding means through secondary circuits which are closed by manual operation of switches either in the car or at the landings and finally by the automatic closing of switches by a selector which moves in synchronism with the elevator car. This element is described in Claim 3 as follows:

". . . selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel, said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon arrival of the body at said selected stopping point."

In the defendants' system when the car or hall buttons are depressed they set up secondary circuits to the 2-U switches which, in turn, are closed by the selector which is responsive to car movement. When a 2-U switch is closed circuits are set up which slow down and stop the car by varying and finally breaking the running circuit.

Claim 3 reads directly on the combination above, it having been found that those differences between the de-

fendants' installation and the Parker disclosures fall within the range of equivalents to which the patent is entitled. It is concluded that Claim 3 is infringed.

As said before, Claims 3, 29, 40, and 65 cover the same combination of elements set forth above differing only in the specification of functional characteristics.

The same combination of elements in the Pacific Finance installation permits of the starting of the car manually and causes the car to be stopped by a power mechanism acting through a selector drum, "in response to the operation of either a switch within the car or a switch at the landing" and "means are provided only in the car for causing the operation of the power mechanism to start the car". It is concluded that Claim 29 is infringed.

Claim 40 is directed to the same combination characterized by its function in stopping the car in response to one set of switches when moving in one direction and to the other set of switches when operating in the other direction.

The switches control separate circuits for up and down operation which are non-interfering both in the Parker and the defendants' control systems. As previously pointed out, both the up and down switches here detailed read on the single set of buttons in the elevators in the Pacific Finance Building. It is concluded that Claim 40 is infringed.

Claim 41 is the same as Claim 40, with the addition of another element,

". . . means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car

is traveling in said other direction and in response to said additional stop switches when the car is traveling in said one direction."

In Parker this is characteristic of the particular form of car switch which he specifies—that the operation in either direction depends entirely upon the bridging of the car switch contacts. In the defendants' installation non-interference is accomplished by the open contacts D-O-2 and U-O-2. While it is, of course, necessary to prevent interference between up and down stopping circuits, the solution of the problem does not appear to have required unusual inventive skill. The plaintiff has contended that no inventive skill is required to separate the circuits in Parker's selector by providing another arm, 34. To a degree the same argument can be applied to the last element in this claim and is effective to the extent of showing that the combination involves but slight invention. No range of equivalents can be allowed that would cover the open contacts on the defendants' direction switches. For this reason, it is concluded that Claim 41 is not infringed.

Claim 65. The circuits and control means operated by the hall and car buttons in the defendants' installation are non-interfering and operate to stop the car, "regardless of the position of the car when the various switches are operated or the relative order in which the various switches are operated." The same combination of elements accomplishes this in both the defendants' installation and the Parker system. The specification of this combination has been previously pointed out. It is concluded that Claim 65 is infringed.

Claim 22 defines:

". . . . a plurality of control means, one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated."

This control means in defendants' structure is found in the circuits controlled by the car buttons. The 2-U and 2-D switches on the primary drum, and the holding circuit through relays 45 and 46. In operation the completion of the circuit through the car switches and 2-U or 2-D switches breaks the holding circuit to initiate the stopping of the car. It has been previously pointed out that these stopping circuits and circuit closing means are equivalent to the means disclosed by Parker:

". . . . only one control means for causing the starting of the car, said one control means being operable from within the car."

The car switch in the defendants' elevator closes the relays 45 and 46 which, in turn, close the direction switch and the main motor switch. The stopping from the floor buttons in the defendants' structure is accomplished by means which are the same as, or equivalent to, the means disclosed by Parker. It is concluded that Claim 22 is infringed.

Intervening Rights and Estoppel. The evidence shows that the original Parker patent, No. 1,506,380, was issued August 26, 1924, and that the defendants completed an experimental elevator, using a system of control similar to that found in the Pacific Finance installation on or about August 4, 1925. The working drawings for the Pacific Finance installation were finished October 22, 1925,

and the first car was installed and ready for operation on March 4, 1926. The whole installation was complete and ready for automatic operation on May 11, 1926. On November 13, 1925, the plaintiff herein, who, in the meantime had acquired title to the original patent, applied for a re-issue patent, No. 16,297, which was issued March 23, 1926. With the exception of Claim 3, all the claims in issue were allowed in the re-issued patent. The Vice President and Chief Engineer of the defendant, Llewelly Iron Works, Milton Baruch, was informed of the intention to apply for a re-issue by the plaintiff during November or December, 1925. The plaintiff did not acquiesce in defendants' manufacture and use of their control system. They applied promptly for a re-issue. The defendants continued their work after knowledge of the patent and, further, after Mr. Baruch knew of the intention to apply for a re-issue. The facts do not bring the case within the rule of any of the authorities cited by the defendants. The master considers the whole question to be immaterial, in that the re-issued claims in issue, with the exception of Claim 22, have no greater scope than Claim 3. Further, the infringement found as to Claim 3, if not in error, is decisive.

Wherefore, the master concludes:

1. That this is an action arising under the patent laws of the United States and falls within the jurisdiction of this court;

2. That title to Letters Patent No. Re-issue 16,297 rests in the plaintiff, Otis Elevator Company;

3. That said Letters Patent, and particularly Claims 3, 22, 29, 40, 41, and 65, are good and valid;

4. That the defendant, Llewellyn Iron Works, manufactured and installed, and the defendant, Pacific Finance Corporation, used a structure which infringes said Letters Patent, and Claims 3, 22, 29, 40, and 65 thereof;

5. That Claim 37 is invalid under Section 4888 of the Revised Statutes.

6. That Claim 41 is not infringed.

It is recommended that a decree be entered in conformity with this report, that an injunction issue restraining the defendants from those acts herein found to be infringements of the patents in suit, and that an accounting of profits and damages be ordered.

This report in the form of a preliminary draft was submitted to counsel to permit the master to consider such exceptions and suggestions for amendment as might be offered.

The plaintiff excepted to the findings on Claims 37 and 41. No reason has been found to change these findings, although the report has been amended in an effort to further clarify the master's findings on Claim 41.

The defendants' exceptions, other than those that are formal in character, are directed to the omission of specific findings on certain prior art structures. These omissions were intentional. Those references upon which no findings are made are not considered to be pertinent. If this view is erroneous, it would not assist in correcting the error to include in the report findings made upon what the master considers irrelevant matter. Should there be error, the findings can be made after the error is pointed out and corrected.

The file wrapper in the case is returned herewith together with the transcript of testimony, exhibits, briefs, and other papers relating to the proceedings on reference.

Respectfully submitted,

David B. Head

David B. Head

Special Master

[Endorsed]: No. M-25-J In Equity In the District Court of the United States For the Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Report of Special Master Filed Feb 25 1930 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

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IN THE DISTRICT COURT OF THE UNITED STATES SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION

OTIS ELEVATOR COMPANY,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	M-25-J
	)	IN EQUITY
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,	)	
	)	
	)	
Defendants.	)	

EXCEPTIONS OF DEFENDANTS TO REPORT OF SPECIAL MASTER

Now come the defendants Pacific Finance Corporation and Llewellyn Iron Works and except to the findings and report of the Honorable David B. Head, Special Master, in the above entitled case, as follows:

1. The Master erred in finding that Claims 3, 22, 29, 40, 41 and 65 of the Reissued Letters Patent in suit or any of them are good and valid.

2. The Master erred in finding that defendant Llewellyn Iron Works has manufactured and installed and that defendant Pacific Finance Corporation has used a structure which infringes Claims 3, 22, 29, 40 and 65 of the Reissued Letters Patent in suit or any of them.

3. The Master erred in failing to find that the structure manufactured and installed by Llewellyn Iron Works and used by defendant Pacific Finance Corporation does not infringe Claim 37 of the Reissued Letters Patent in suit.

4. The Master erred in failing to find that the Reissued Letters Patent in suit are lacking in invention.

5. The Master erred in recommending that an injunction be issued restraining the defendants from the infringement of the Reissued Letters Patent in suit erroneously found by the Master.

6. The Master erred in recommending that the defendants be ordered to account for profits and damages arising out of the infringement erroneously found.

7. The Master erred in omitting findings on certain prior art offered in evidence by defendants merely because the Master did not consider the same to be pertinent.

8. The Master erred in failing to find that the Reissued Letters Patent in suit are void because the disclosure of said Reissued Letters Patent is insufficient to enable a person skilled in the art to make or use a control for electric elevators such as purported to be covered by such Reissued Letters Patent.

9. The Master erred in failing to find that the Reissued Letters Patent in suit are void because the control for electric elevators disclosed in said Reissued Letters Patent could not be embodied in an operative elevator system without independent invention.

10. The Master erred in finding that there existed in the prior art any system of slowing down, stopping or leveling adapted for use with the control for electric elevators disclosed in the Reissued Letters Patent in suit.

11. The Master erred in finding that the Reissued Letters Patent in suit in directing that some system of slowing down, stopping and leveling then in use be adapted to the control for electric elevators described in said Reissued Letters Patent, the inventor not then knowing of the specific structure or operation of any such system, provided sufficient information to the elevator engineer to enable him to embody the invention in a successful elevator without independent invention.

12. The Master erred in finding that at the time of the Parker disclosure the elevator art had advanced to such a degree that upon the manual operation of a car switch all further steps in deceleration and stopping a car level with the floor landing or returning it to the floor landing if stopped beyond the landing could be automatically accomplished.

13. The Master erred in failing to find that the only feature of novelty disclosed in the Reissued Letters Patent in suit is a specific construction of an elevator starting switch and that such construction has not been employed by the defendants.

14. The Master erred in failing to find that the only mode of operation disclosed in the Reissued Letters Patent in suit is that upon the secondary circuit being completed through the floor selector, the car switch (which in the Reissued patent in suit is electrically latched or held by the holding circuit in the running position) is released to interrupt the flow of power to the hoisting motor and that defendants have not employed such mode of operation.

15. The Master erred in finding that the specific disclosure in the Reissued Letters Patent in suit of a special type of master control switch and the specific limitation in Claim 3 of the patent to a location and relationship of such switch, should not be considered because of the fact that the patentee was ignorant of the trend of practice in the elevator art.

16. The Master erred in holding that because the patentee was ignorant of the fact that good elevator practice demanded the presence of all switches possible within the penthouse instead of in the elevator car, the deliberate intention expressed in the Reissued Letters Patent in suit to cover a novel form of car switch should be disregarded.

17. The Master erred in failing to find that the only braking mechanism disclosed in the Reissued Letters Patent in suit is in the form of a mechanical brake actuated immediately upon the completion of the selector contacts and that no such mode of operation or inter-relation of parts has been employed by defendants.

18. The Master erred in failing to find that in order to automatically stop an elevator car level with a land-

ing on initiation of a stopping impulse, it is essential that there be slow down, stopping and leveling mechanism including means for compensating for variations in the speed and weight on the elevator car and that at the time of the Parker disclosure there existed in the elevator art no such slow down and stopping mechanism and that no such mechanism is disclosed in the Reissued Letters Patent in suit.

19. The Master erred in failing to find that the use of odd and even circuits to prevent conflict between different floor circuits is essential, and erred in finding that to use such odd and even circuits would not be a departure from the teachings of the Reissued Letters Patent in suit and that the prior art was in a position to supply that need.

20. The Master erred in finding that the defendants' installation is sufficient proof that the prior art could supply satisfactory means to allow timely operation of the usual braking mechanism.

21. The Master erred in finding that there is nothing in the disclosures of the Reissued Letters Patent in suit indicating that the running of the hall button circuit through the car button circuits is essential to the system of operation disclosed in the patent and erred in finding that the separation of these circuits would require nothing more than ordinary engineering skill.

22. The Master erred in holding that the secondary circuits of the Parker patent are independent of the starting and running circuits.

23. The Master erred in failing to find that the Reissued Letters Patent in suit are void because the disclosures of said Reissued Letters Patent are inoperative.

24. The Master erred in failing to find that the selector disclosed in the Reissued Letters Patent in suit would be inoperative to perform the functions defined by the claims in suit.

25. The Master erred in finding that the inoperativeness of the control for electric elevators disclosed in the Reissued Letters Patent in suit could be cured by building a selector in such form that the circuit bridging member would not bridge the rings or simultaneously bridge the up and down contacts.

26. The Master erred in finding that defendants' expert admitted that one skilled in the art would build the selector in such form that the circuit bridging member would not bridge the rings or simultaneously bridge the up and down contacts.

27. The Master erred in finding that the prior art was sufficiently advanced in skill and knowledge to correct the inoperativeness of the selector disclosed in the Reissued Letters Patent in suit.

28. The Master erred in not finding the Reissued Letters Patent in suit void because inoperative and lacking in utility in that the means for resetting the push buttons are included within the same circuits as the means for breaking the running circuits so that there exists a race as to which operation would be completed first,—the resetting of the buttons or the breaking of the running circuit.

29. The Master erred in finding that Parker taught the art a new means of control that has solved old problems and erred in failing to find that the patent merely states and does not solve a problem.

30. The Master erred in sustaining the Reissued Letters Patent in suit in effect to cover merely the function or abstract effect of a machine without limiting the patent to the means or machine disclosed therein to produce that function or effect.

31. The Master in sustaining the Reissued Letters Patent in suit has erred in holding that the patent may be held valid merely for a principle or for an idea.

32. The Master in sustaining the Reissued Letters Patent in suit erred in failing to apply the settled rule of patent law that a patent cannot issue for an idea but only for the means by which the idea is embodied in an operative mechanism.

33. The Master erred in sustaining the Reissued Letters Patent in suit and finding infringement thereof because his decision is predicated in fact upon the proposition that by the patent in suit plaintiff can monopolize every means of performing the functions of starting the car from within the car by a manual switch and stopping the car automatically from either buttons within the car or buttons at the hall landings and this proposition is fundamentally unsound it having been uniformly held that no one can have a patent for the function or abstract effect of a machine, but only for the machine which produces it.

34. The Master erred in finding that defendants' Pacific Finance elevators infringe the Reissued Letters Patent in suit because such finding is predicated merely upon a comparison of the results obtained irrespective of the absence of legal identity in the means employed.

35. The Master erred in failing to find that the prior art shows the combination of an elevator car with starting means operable only from within the car to start the car, means independent of the starting means for holding the car control means in running condition, and means for stopping the car independent of the starting means, and including push buttons operable by passengers prior to the arrival of the car at the floors and other switches operable when the car arrives at the floors, the combined operation of which renders the holding means ineffective and causes the car to be stopped.

36. The Master erred in failing to find that the prior art discloses the same or the equivalent of the elements disclosed in the Reissued Letters Patent in suit cooperating in the same or in an equivalent manner to produce the same result.

37. The Master erred in holding that the prior art did not show a combination of control means by which an elevator could be started by an operator and thereafter stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landings.

38. The Master erred in failing to find that each of the patents to Nistle, Exhibit X-14, Crouan, Exhibit X-1, and to Ongley, Exhibit X-6, discloses a combination of a control means by which an elevator car can be started by an operator and thereafter stopped automatically at several landings in response to control means in the car and at successive landings in response to control means

actuated at any time before the car reaches the selected landing.

39. The Master erred in holding that the patents to Nistle, Exhibit X-14, and to Crouan, Exhibit X-1, show control means in no way analagous to control by means of electrical circuits.

40. The Master erred in holding that structurally and functionally the Ongley patent, Exhibit X-6, is different from the control for electric elevators disclosed in the Reissued Letters Patent in suit.

41. The Master erred in holding that the Worthen patent, Exhibit X-15, and the Strohm patent, Exhibit X-10, are not pertinent to the validity or scope of the Reissued Letters Patent in suit.

42. The Master erred in finding that the circuit including the coil 32 of the Reissued Letters Patent in suit is not found in the prior art.

43. The Master erred in failing to find that a holding circuit equivalent to that including the coil 32 of the Reissued Letters Patent in suit is found in the holding circuits of the Ihlder patent, Exhibit X-13, the Strohm patent, Exhibit X-10, and the Ongley patent, Exhibit X-6.

44. The Master erred in holding that the means which Parker discloses for holding the running circuits closed independently of the manual switch and the means for releasing the running circuit to stop the car automatically has no antecedent in the elevator art.

45. The Master erred in holding that inasmuch as the means which are disclosed in the Reissued Letters Patent

in suit for holding the running circuits closed independently of the manual switch and the means for releasing the running circuit to stop the car automatically have no antecedent in the elevator art, the patent is entitled to a range of equivalents which will cover any means which accomplishes the same result in the same way.

46. The Master erred in failing to find that it was old at the time of the Parker invention to have elevators in which there were provided push buttons on the floors and in the cars which connected through a floor selector to make circuits corresponding to the respective floors to control a pole changing switch to interrupt the power of the motor so as to stop the car, and that it was old in the art to have these circuits operate through an automatic floor selector.

47. The Master erred in failing to find that if any claim of the Reissued Letters Patent in suit be construed sufficiently broad so as to include the structure of the Pacific Finance elevators, then such claim so construed is anticipated by the Smalley and Reiners patent, Exhibit X-11, because such Smalley and Reiners patent discloses the same running circuits, holding means and selective means disclosed in the patent in suit and the same combination therebetween.

48. The Master erred in failing to find that the Smalley and Reiners patent, Exhibit X-11, disclosed all of the essential features of the control for electric elevators disclosed in the Reissued Letters Patent in suit and that as soon as elevator engineers had a means for automatically slowing down a high speed car no further invention would be required to substitute a relay which would set the

slow down means into operation for the signal lamp disclosed in the Smalley and Reiners patent.

49. The Master erred in failing to find that the Smalley and Reiners patent, Exhibit X-11, anticipates the Reissued Letters Patent in suit with the exception that in the Smalley and Reiners patent the signal was transmitted to the operator who thereupon manually initiated the slowing down of the car while Parker substituted a relay for mechanically translating the signal into an initiation of slow down, and that such substitution did not involve invention.

50. The Master erred in failing to find that each of the claims in issue of the Reissued Letters Patent in suit were anticipated by the Ihlder patent, Exhibit X-13.

51. The Master erred in failing to find that structurally the starting and running secondary circuits of the Ihlder and Parker patents were the same in elements, functions and principles of operation.

52. The Master erred in failing to find that each and all of the claims in issue of the Reissued Letters Patent were anticipated by the structures illustrated and disclosed in either the Worthen patent, Exhibit X-15, or the Strohm patent, Exhibit X-10.

53. The Master erred in not finding that the Strohm patent, Exhibit X-10, structurally and functionally anticipates Claim 3 of the Reissued Letters Patent in suit, if said claim is construed sufficiently broad to include the Pacific Finance elevators.

54. The Master erred in not finding that in view of the patent to Strohm, Exhibit X-10, Claim 3 of the Re-

issued Letters Patent in suit is void unless limited to the switch and holding means being located within the elevator car.

55. The Master erred in not finding that the rope A of the Strohm patent, Exhibit X-10, is an equivalent of a relay circuit for remotely controlling a master switch in an elevator penthouse and for that reason Claim 3 of the Reissued Letters Patent in suit must be restricted to the particular master control switch carried by the car as described in said patent.

56. The Master erred in failing to find that if Claim 3 of the Reissued Letters Patent in suit is construed or interpreted to include the defendants' Pacific Finance elevators, said claim is void because anticipated by Strohm patent, Exhibit X-10, and that the Strohm patent discloses and fully describes the combination with a guided movable body (Strohm car) of an electrical controlling circuit (Strohm circuit to relays f, g), a switch on said body, manually operable for closing said circuit (Strohm switch contacts b, d and e, which, while not on the car are manually operable only from within the car by means of rope A, which is the equivalent of a handle to that switch), means holding said switch in the circuit closing position (Strohm piston and cylinder 41 and 42 act as a holding means to hold switch contacts b, d and e in closed position when actuated) a selective means to actuate the relays of said switch holding means to stop said body at one or more predetermined points in line of its travel (Strohm push buttons F and the hatchway switches operated by shoes G) said selective means comprising a manually operable circuit closer to be actuated prior to

the arrival of the body at a selected stopping point (Strohm push button F is operated by a passenger at any time prior to the arrival of the car at his floor, being the stopping point) and an automatic circuit closer actuated upon the arrival of the body at a selected stopping point (the hatchway switch which is moved to open its contacts when the shoe G engages the spring portion of this switch which occurs when the car arrives at the selected stopping point) and that the Strohm patent discloses that any number of push buttons may be operated in any order and the car will stop successively at the associated floors in the order of approach to those floors.

57. The Master erred in failing to find that the Pacific Finance elevators do not infringe Claim 3 of the Reissued Letters Patent in suit because said claim must be limited to the location of the switch and holding magnet on the elevator car body; that defendants' Pacific Finance elevators do not contain this switch or this holding magnet on the elevator car body, but follow the teachings of the Strohm patent, Exhibit X-10, and utilize a handle (on the elevator car) operating a switch in the penthouse, with holding means (in the penthouse) for that switch and a push button operated prior to the arrival of the elevator car at the floor connected with a floor selector closed by car movement as the car approaches the floor.

58. The Master erred in failing to find that the Strohm patent, Exhibit X-10, shows and discloses an apparatus whereby the passengers may cause the car to stop so that the operator cannot pass them up and the car can be started only from within the car.

59. The Master erred in failing to find that Claim 22 of the Reissued Letters Patent in suit is anticipated by any one of the patents to: Strohm, Exhibit X-10; Ongley, Exhibit X-6; and the patent to Smalley and Reiners, Exhibit X-11, if construed broadly enough to cover defendants' Pacific Finance elevators.

60. The Master erred in failing to find that Claim 29 of the Reissued Letters Patent in suit is anticipated by any one of the patents: to Strohm, Exhibit X-10; to Crouan, Exhibit X-1; to Nistle, Exhibit X-14; to Worthen, Exhibit X-15; and to Ongley, Exhibit X-6, if construed broadly enough to include defendants' Pacific Finance elevators.

61. The Master erred in failing to find that if Claims 37, 40, 41 and 65 or either thereof of the Reissued Letters Patent in suit are construed broadly enough to include the defendants' Pacific Finance elevators, each of the same is anticipated by the patent to Strohm, Exhibit X-10, for the Strohm patent discloses means for separating down and up push button circuits by withdrawing the shoes G.

62. The Master erred in finding that the Reissued Letters Patent in suit are entitled to a range of equivalents that will cover any other means which accomplished the same result in substantially the same way and erred in failing to find that the Reissued Letters Patent in suit must be denied any such range of equivalents because of the limitations in scope imposed by the proceedings in the Patent Office upon the application for the original Parker patent including the cancellation and amendment of claims after rejection by the Patent Office.

63. The Master erred in failing to find that Claim 3 of the Parker Reissued Letters Patent is restricted in scope so as not to be infringed by defendants' Pacific Finance elevators because of the restrictions of the claims during the prosecution of the original letters patent in response to the requirements of the Commissioner of Patents.

64. The Master erred in failing to find that the proceedings in the Patent Office leading to the grant of Claim 3 of the Reissued Letters Patent in suit estop plaintiff from urging a construction of such claim which will cover any elevator system except one in which the selective means and floor selector contacts open the running circuit holding means to initiate stopping of the elevator car upon arrival of the car within braking distance of the landing, and that so construed Claim 3 is not infringed by defendants' Pacific Finance elevators.

65. The Master erred in failing to find that it is unnecessary that an anticipating prior art disclosure have both floor buttons and car buttons because of the express statement in the Reissued Letters Patent in suit "that the invention would include the use of such floor buttons when the car buttons were omitted, if such an arrangement should be desired, and vice versa." (page 3, lines 58-64).

66. The Master erred in failing to find that Claim 29 of the Reissued Letters Patent in suit is void because defining a different invention from that of the original of the Reissued Letters Patent in suit in that the original specifically disclaimed any invention in the use of both car and hall buttons.

67. The Master erred in not finding that Claims 40 and 41 of the Reissued Letters Patent in suit are limited to an elevator structure in which there are separate up and down car buttons.

68. The Master erred in finding that the use of one set of buttons to control alternately two separate sets of circuits is only a matter of expediency and not a departure from the Reissued Letters Patent in suit.

69. The Master erred in reading into Claims 3, 22, 29, 40, 41 and 65 certain selected elements of the means disclosed in the Reissued Letters Patent in suit for the purpose of differentiating the claims from the prior art and sustaining the same and yet stopping short of reading into such claims the remaining elements of such means so as to make out a case of infringement by defendants' Pacific Finance elevators.

70. The Master erred in finding that Claims 22, 29, 40 and 65 of the Reissued Letters Patent in suit do not differ substantially in scope from Claim 3 of said patent.

71. The Master erred in failing to find that plaintiff is estopped to deny that Claim 3 of the Reissued Letters Patent in suit is anticipated by the patent to Buckelew No. 724,662, upon which said claim was rejected by the Patent Office, unless the claim is restricted to the selective means of the Parker system which includes an automatic circuit closer actuated upon arrival of the car at a selected landing for releasing a holding means.

72. The Master erred in failing to find that on account of the limitations embodied upon Claim 3 of the Reissued Letters Patent during the prosecution of the original application for said patent in the Patent Office

for the purpose of avoiding the disclosure of Buckelew patent No. 724,662, that plaintiff is estopped to allege that said claim is infringed by defendants' Pacific Finance elevators.

73. The Master erred in failing to find that Claim 3 of the Reissued Letters Patent in suit is specifically limited to "a switch on said body" (the elevator car) and a holding means for that switch, and defendants' Pacific Finance elevators do not contain these elements of said claim and therefore do not infringe said claim.

74. The Master erred in failing to find that original Claims 1, 2, 3 and 4 of the application for the Reissued Letters Patent in suit were rejected by the Commissioner of Patents as anticipated by the Buckelew patent No. 724,662; that Parker acquiesced in such rejection and cancelled said claims 1, 2 and 3, and substituted therefor the two new limited claims 1 and 2 of the original patent, and amended original claim 4 by limiting the same to call for and define "said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the car at said selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected landing"; that thereby plaintiff became estopped from asserting that Claim 3 of said Reissued Letters Patent is not limited to the specific means thus defined, and particularly to "an automatic circuit closer actuated upon the arrival of the body (elevator car) at said selected landing"; that plaintiff is estopped to assert that this claim is infringed by defendants' Pacific Finance elevators in which the circuit through the floor selector is not completed at the time the

car is to be stopped and does not contain the combination to which Claim 3 is limited.

75. The Master erred in failing to find that Claim 3 of the Reissued Letters Patent in suit is specifically limited to (1) the master control switch being located on the elevator car and manually operable to close the controlling circuit, the terms of the claim "on said body" and "manually operable" defining this master control switch as the contacts 34 or 34′ which close gaps 10-11 or 10′-11′; (2) to the retaining magnets 32 or 32′ (the "means for holding said switch in circuit closing position", thereby limiting said claim to the specific type of master control switch disclosed in the patent and described as essential on page 3, lines 12-44); (3) to the automatic release of this switch by the selector as defined by the claim by the words, "selective means for actuating the release of said switch holding means"; and (4) to the selective means operating only upon the car reaching the stopping point as defined in the claim by the words "said selective means comprising * * * an automatic circuit closer actuated upon the arrival of the body at said selected stopping point; that such construction and mode of operation thus defined, and to which the claim is thus limited, are not found in defendants' Pacific Finance elevators and defendants do not therefore infringe Claim 3.

76. The Master erred in failing to find that Claims 29 and 37 including both car and hall buttons are void for aggregation, the hall and car buttons being functionally indifferent to each other.

77. The Master erred in failing to find that the plaintiff has not proven any substantial identity of the

means incorporated in plaintiff's commercial so-called "signal control elevators" and the means disclosed in the Reissued Letters Patent in suit.

78. The Master erred in holding that there is any evidence in the record that plaintiff's commercial so-called signal control elevators employ either (1) a circuit controlled by a car switch to start the car; or (2) a holding circuit which maintains the running circuits independent of the car switch; or (3) secondary circuits with manual control means located in the car or at the landing and automatic circuit closing means on a selector, for interrupting the running circuit in stopping the car.

79. The Master erred in holding that there is in evidence a diagram, Defendants' Exhibit DD, proven to illustrate the installation of plaintiff in the Pacific Telephone & Telegraph Building in San Francisco.

80. The Master erred in failing to find that there is no evidence in the record as to what is illustrated by the drawing, Defendants' Exhibit DD, and that means illustrated by this drawing cannot be determined or understood in the absence of evidence explaining the same.

81. The Master erred in holding that the elevator installation in the Pacific Telephone & Telegraph Building at San Francisco embodied the disclosures of the Reissued Letters Patent in suit.

82. The Master erred in holding that the success of plaintiff in commercializing its so-called signal control elevators was due in large or in any measure to the disclosures of the Reissued Letters Patent in suit.

83. The Master erred in failing to find that the commercial success of plaintiff's co-called signal control ele-

vators has been due to (1) good salesmanship and (2) to the presence of inventions and discoveries made subsequent to the disclosures of the Reissued Letters Patent and covered by numerous patents and patent applications of plaintiff not in suit.

84. The Master erred in failing to find that no control for electric elevators has ever been built in accordance with the drawings and specifications of the Reissued Letters Patent in suit and that accordingly such Reissued Letters Patent are to be narrowly construed.

85. The Master erred in failing to find that the Reissued Letters Patent in suit are granted for a combination and that the patentee is entitled only to protection against any use of the same combination of elements combined in the same way so that each element performs the same function or against substantially the same use with deviations which are merely colorable and that each of the well known elements comprising such combination remains open to the use of subsequent inventors for a different combination for like results, for which reason defendants' Pacific Finance elevators do not infringe said letters patent.

86. The Master erred in failing to find that the only mode of operation disclosed in the Reissued Letters Patent in suit is that upon the secondary circuit being completed through the floor selector the car lever and switch (which in the Parker patent is electrically latched or held by the holding circuit in running position) is released to interrupt the flow of power to the hoisting motor.

87. The Master erred in failing to find that the mode of operation of defendants' Pacific Finance elevators is

that upon the completion of the circuit through the floor selector an automatic slow down and leveling machine is energized which operates independently of the car switch lever or any of the switches holding the running circuit to the hoisting motor closed, and that the secondary circuits of the defendants' Pacific Finance elevators have not the same or an equivalent relationship with the running and holding circuits as that disclosed in the Reissued Letters Patent, and that the inter-relation existing between the secondary circuits and the running and holding circuits of the Parker patent does not exist in defendants' Pacific Finance elevators.

88. The Master erred in failing to find that neither the car switch lever nor the switch which maintains power to the hoisting motor nor the starting or running circuits are actuated by the secondary control circuits of the Pacific Finance elevators, and that the floor selector of the Pacific Finance elevator does not electrically unlatch or release the circuit supplying power to the hoisting motor, nor release the holding circuit, but on the contrary that the secondary circuits and floor selector of the Pacific Finance elevators actuate an automatice slow down machine whereas the starting and running circuits and the holding circuits are combined with a leveling cam having no selective action, the aforesaid inter-relation of elements in defendants' Pacific Finance elevators being a different combination of elements possessing a different mode of operation from that disclosed in the Reissued Letters Patent in suit.

89. The Master erred in holding that defendants' Pacific Finance elevators embody any means for holding

the car switch in circuit closing position as defined in Claim 3 of the Reissued Letters Patent in suit.

90. The Master erred in holding that the defendants' Pacific Finance elevators embody any means for actuating the release of the switch holding means defined in Claim 3 of the Reissued Letters Patent in suit.

91. The Master erred in holding that the defendants' Pacific Finance elevators embody the selective means defined in Claim 3 of the Reissued Letters Patent in suit.

92. The Master erred in failing to find that there exists in the defendants' Pacific Finance elevators no switch on the car body manually operable for closing an electrical control circuit which switch is held by a holding means, released by a selective means upon closing of an automatic circuit closer, for stopping the car at an elevator landing and that there existed no switch either on the elevator car or on the panel-boards having the same mode of operation or inter-relation as defined in Claim 3 of the Reissued Letters Patent in suit.

93. The Master erred in failing to find that there exists in defendants' Pacific Finance elevators no holding means combined with a selective means so as to initiate a stopping operation on completion of the automatic gaps of the selector, whether consideration be given to means located in the elevator cars or in the penthouse.

94. The Master erred in failing to find that the selective means of the Reissued Letters Patent in suit and of Claim 3 thereof did not exist in the defendants' Pacific Finance elevators because the selective means of the 2U contacts or the Randall machine contacts are all closed many feet prior to the releasing of the holding means

and do not function or operate to release the holding means, and that defendants' selective means is not employed in the governing or determining of the stopping point of the elevator car or for determining the position of breaking the running circuit or applying the elevator brake.

95. The Master erred in failing to find that defendants' Pacific Finance elevators do not infringe Claims 40, 41 and 65 because of the fact that such elevators do not embody separate up and down car buttons.

96. The Master erred in finding that in defendants' Pacific Finance elevators there exists any tripping arrangement whereby the car buttons are switched over to control separate sets of circuits for up and down operation.

97. The Master erred in failing to find that there exists in defendants' Pacific Finance elevators single switches always permanently connected in the same circuits so that the energization of any car switch, irrespective of whether the car is above or below a floor, or going in either direction, would insure the stopping of the car at the corresponding floor at the next approach of the elevator car at that floor.

98. The Master erred in holding that the control circuits for stopping an elevator car from a push button in defendants' Pacific Finance elevators corresponded to any circuit of the Reissued Letters Patent in suit either in form, function or mode of operation.

99. The Master erred in not finding that Claims 37, 40, 41 and 65 of the Parker Reissued Letters Patent were deliberately and intentionally restricted to separate up and down car buttons and therefore could not be interpreted

to include a system embodying only a single set of car buttons for both up and down direction.

100. The Master erred in failing to find that Claims 40 and 41 of the Reissued Letters Patent in suit are void as covering matter not disclosed in the said patent unless these claims are limited to cover only the separate sets of up car buttons and down car buttons and to exclude the hall buttons disclosed in said patent.

101. The Master erred in failing to find that Claim 41 of the Reissued Letters Patent in suit is void because the patent contains no disclosure of "means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car is traveling said other direction and in response to said additional stop switches when the car is traveling in said one direction."

102. The Master erred in not finding that Claim 65 of the Reissued Letters Patent in suit is void as covering matter not disclosed in the original Letters Patent.

103. The Master erred in finding that the holding means utilized in defendants' Pacific Finance elevators are the equivalent of those disclosed in the Reissued Letters Patent.

104. The Master erred in holding that the use of the automatic decelerating means employed in defendants' Pacific Finance elevators does not constitute a substantial departure from the disclosures of the Reissued Letters Patent.

105. The Master erred in failing to find that the employment of the decelerating and slow down machine

in the control system disclosed in the Reissued Letters Patent in suit would necessitate an entire reorganization of all of the structure, specific form of elements, and of the manner and mode of operation and function performed by the elements and with the result that any structure so possessing a slow down machine such as utilized in defendants' Pacific Finance elevators is an entirely different combination for a different cooperative law from that disclosed in the Reissued Letters Patent in suit.

106. The Master erred in finding that in all other respects except those specifically mentioned by him the control means employed in defendants' Pacific Finance elevators and the control means disclosed in the Reissued Letters Patent were identical and the Master erred in failing to compare the relationship of the control means of defendants' Pacific Finance elevators with the other elements of defendants' system, and erred in failing to compare this relationship with the relationship of the control means of the Reissued Letters Patent with the running circuits, pole-changing switch and motor, and to find that defendants' elevators combine the different inter-relation of elements having a different mode of operation from that disclosed in the Reissued Letters Patent.

107. The Master erred in finding that the control means in defendants' structure found in the circuits controlled by the car buttons, including the 2U and 2D switches on the primary drum, and the holding circuits through relays 45 and 46 constitutes an equivalent of the control means defined in Claim 22 of the Reissued Letters Patent in suit.

108. The Master erred in holding that the defendants' Pacific Finance elevators embodied a circuit through the car buttons and the 2U or 2D switches which, when completed, breaks the holding circuit to actuate stopping of the elevator car.

109. The Master erred in finding that it was unnecessary to consider the Ward Leonard generator system employed by defendants except to observe that a motor and generator were arranged so that by varying the strength of the generator field, the amount of power delivered to the motor is varied and the speed of the elevator controlled.

110. The Master erred in failing to find that the elevators made and used by defendants which operate with a Ward Leonard generator equipped with a series field and with a slow down machine could not utilize the elevator control system disclosed in the Reissued Letters Patent in suit because of the fact that it is essential in defendants' elevators to maintain the direction switch and running circuit closed until completion of the stopping operations and that a Ward Leonard equipped elevator with the slow down and stopping machine employed by defendants could not be operated by opening the main running circuit on completion of the automatic gaps of the selector circuits.

111. The Master erred in failing to find that the claims of the Reissued Letters Patent in suit are for a different invention than that claimed in the original of said letters patent.

112. The Master erred in failing to find that the patent in suit was expressly reissued for the purpose of

broadening the claims of the original patent and that plaintiff is now estopped from urging that the new claims of the reissued letters patent have no greater scope than the claims of the original patent.

113. The Master erred in finding that the reissued claims in issue with the exception of Claim 22 have no greater scope than Claim 3.

114. The Master erred in construing the Reissued Letters Patent to contain more than one valid claim of the same scope.

115. The Master erred in failing to find that the bill of complaint in this case should be dismissed as to Claims 22, 29, 37, 40, 41 and 65 because of the intervening rights of defendant Llewellyn Iron Works.

116. The Master erred in finding that the vice-president and chief engineer of the defendant Llewellyn Iron Works, Milton Baruch, was ever informed of or knew of the intention of the Otis Elevator Company to apply for a reissue of the letters patent in suit.

117. The Master erred in failing to find that neither the defendant Llewellyn Iron Works nor any of its officers or agents ever had any knowledge that the plaintiff, Otis Elevator Company, owned the original of the letters patent in suit or intended to apply for a reissue thereof until subsequent to the application of the reissue of the letters patent in suit.

118. The Master erred in failing to find that the plaintiff, Otis Elevator Company, although having knowledge of and having been offered the original of the letters patent in suit, made no effort to acquire or obtain the same until it had independently completed its so-called signal

control system and until subsequent to the completion of automatic stopping elevators by defendant Llewellyn Iron Works.

119. The Master erred in failing to find that the plaintiff, Otis Elevator Company, had knowledge of the commercial construction of defendants' automatic stopping elevators previous to its purchase of the letters patent in suit and that plaintiff purchased the said patents solely for the purpose of reissuing the same to include and tie up the then completed developments in elevators of defendant Llewellyn Iron Works.

120. The Master erred in failing to find that previous to the application for the reissue of the letters patent in suit and previous to any knowledge or any intention of plaintiff to apply for the reissue of such letters patent, defendant Llewellyn Iron Works had completed a successful commercial installation at the Petroleum Securities Building and had sold the elevators of the Pacific Finance Building, and had undertaken at great expense to construct and install such elevators and had incurred substantial expenditures and made substantial investments thereon so that at the time of the application of the reissue of the letters patent in suit defendants had substantially entered the business of commercially manufacturing, selling and using the Pacific Finance elevators.

121. The Master erred in failing to find that upon the grant of the original of the letters patent in suit and prior to the application for the reissue thereof the defendant Llewellyn Iron Works had entered upon the manufacture, sale and use of the elevators complained of herein which were not covered by the claims of the original of said letters patent and were thereby dedicated to the public and that on account of said dedication and the intervening acts of defendant Llewellyn Iron Works the reissued letters patent in suit are void.

122. The Master erred in failing to find that the application for the reissue of the letters patent in suit was unreasonably delayed and that said reissued letters patent are for that reason invalid.

123. The Master erred in failing to find that the Reissued Letters Patent in suit differs from the original thereof only by the addition of Claims 12 to 68; that upon application for reissue thereof, the only defect relied upon by the plaintiff as making the original patent invalid or inoperative was the failure of the original patent to include the additional Claims 12 to 68; that such defect did not arise by inadvertance, accident or mistake and that the Reissued Letters Patent in suit was unlawfully obtained and is void.

124. The Master erred in failing to find that prior to the alleged invention of Parker disclosed in the Reissued Letters Patent in suit plaintiff had independently conceived of the automatic stopping of car switch control elevators and that it was admittedly then obvious to plaintiff's engineers at that time to accomplish this automatic stopping by push buttons on the floors and in the cars.

125. The Master erred in failing to find that plaintiff's so-called signal control system was conceived and developed independently of the alleged invention disclosed in the letters patent in suit and that the disclosures of said patent could not and did not aid in the development of plaintiff's signal control system in any manner.

PACIFIC FINANCE CORPORATION,
LLEWELLYN IRON WORKS,
Defendants,

By Lyon & Lyon
Leonard S. Lyon
Their Solicitors

IN THE DISTRICT COURT OF THE UNITED STATES SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION

OTIS ELEVATOR COMPANY,)
)
Plaintiff,)
)
vs.) M-25-J
) IN EQUITY
PACIFIC FINANCE CORPORATION)
and LLEWELLYN IRON WORKS,)
)
Defendants.)

AFFIDAVIT OF SERVICE

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

I, HAROLD W. MATTINGLY, being duly sworn, depose and say that on Saturday, March 15, 1930, I served the enclosed EXCEPTIONS OF DEFENDANTS TO REPORT OF SPECIAL MASTER in the above entitled case upon plaintiff's attorney Raymond Ives Blakeslee, by leaving a true and correct copy thereof at the office of said Raymond Ives Blakeslee, 631 Title Insurance Building, in the City of Los Angeles, California, with Sybil Frindell, a person of suitable age and discretion at that time in charge of said office.

Harold W. Mattingly

Subscribed and sworn to before me this 15th day of March, 1930.

[Seal] Kate B. McKee
NOTARY PUBLIC In and for the County of Los Angeles, State of California

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Exceptions of Defendants to Report of Special Master Filed Mar 15 1930 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Lyon & Lyon Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon, 708 National City Bank Building Los Angeles, Cal. Attys for Defts.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs.

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,

Defendants.

IN EQUITY
NO. M-25-J

NOTICE OF MOTION TO DISMISS.

TO PLAINTIFF ABOVE-NAMED and RAYMOND IVES BLAKESLEE and WALLACE R. LANE, ITS ATTORNEYS:

YOU, and EACH OF YOU, WILL PLEASE TAKE NOTICE, that on Monday, June 22, 1931, at ten o'clock

A. M. or as soon thereafter as we can be heard, we shall present to the above-entitled Court, at the Postoffice Building in Los Angeles, California, the annexed Motion to Dismiss the above-entitled cause.

Lyon & Lyon
Leonard S. Lyon
Attorneys for Defendants.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,
Plaintiff,
vs.
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants.

IN EQUITY
NO. M-25-J

MOTION TO DISMISS.

COME NOW the defendants, PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, and move this Court for an order or decree dismissing this cause, or an order directing such other proceedings herein as to additional pleadings and proofs as may be proper in view of the matters hereinafter set forth occurring since the filing of the Master's report herein.

The grounds of this motion are that, in the report of the Special Master, filed herein February 25, 1930, the Master found claim 37 of the Letters Patent in suit

invalid under Section 4888 of the Revised Statutes; that thereafter plaintiff did not and has not taken or attempted to take or preserve any exception to the finding of the Special Master that claim 37 is invalid, the time permitted for filing any such exception expiring within twenty days following the filing of the Master's report on February 25, 1930; that this cause was argued before the Court commencing on October 15, 1930, on exceptions filed by the defendants to the report of the Special Master finding claims 3, 22, 29, 40, 41 and 65 valid, and claims 3, 22, 29, 40 and 65 infringed; that this cause is submitted to the Court awaiting decision on such exceptions; that on May 1, 1931, plaintiff filed in the United States Patent Office a disclaimer as to claims 34, 35, 36 and 37 of the Letters Patent in suit, as will more fully appear from a duly certified copy of such disclaimer, of which defendants make profert, the same appearing in the United States Patent Office Official Gazette for May 19, 1931, page 569; that plaintiff abandoned the validity of claim 37 of the Letters Patent in suit by filing no exception to the report of the Special Master that such claim was invalid, and thereafter unreasonably neglected and delayed to enter a disclaimer as to said claim 37 until May 1, 1931; that during the time plaintiff was so unreasonably neglecting and delaying to disclaim said claim 37, plaintiff was unlawfully holding itself out as the possessor of the sole right to make, use and vend under said void claim 37, by notice to the public demanding that competitors desist from infringement of such claim, as will more fully appear from such written notices, of which defendants make profert; and that by reason of plaintiff's unreasonable neglect and delay in disclaiming said claim 37, it now

appears that the Re-issued Letters Patent in suit are wholly void as to any and all claims thereof.

Dated at Los Angeles, California, June 17, 1931.

Lyon & Lyon
Leonard S. Lyon
Attorneys for Defendants.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,
Palintiff,
vs.
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants.

IN EQUITY
NO. M-25-J

POINTS AND AUTHORITIES IN SUPPORT OF MOTION TO DISMISS.

At the hearing of the foregoing motion, defendants will refer to and rely upon the following:

Revised Statutes of the United States, §4917 and §4922.

Opinion of the Supreme Court of the United States rendered February 2, 1931, in ENSTEN v. SIMON ASCHER & CO., 283 U. S. 445, (75 L. Ed. 276.)

The recent decision of the Supreme Court of the United States in ENSTEN v. SIMON ASCHER & CO., is directly in point in holding that a patent is rendered wholly void as to all claims where the patent owner, after

a holding that one claim of the patent is invalid, fails to seek a review of such holding and unreasonably neglects and delays to file a disclaimer of the claim held void. In that case, the District Court in Ohio held claim 2 of the patent invalid on May 24, 1922. An appeal was taken by the defendant from the finding that claims 1, 3, 4 and 5 were valid and infringed, but plaintiff did not appeal as to claim 2. On April 30, 1924, plaintiff filed a disclaimer as to claim 2 in the Patent Office. In a subsequent suit, a motion to dismiss because of unreasonable neglect and delay in making the disclaimer was sustained by the District Court. Upon certiorari the Supreme Court in its opinion rendered February 2, 1931, affirmed the decision of the District Court sustaining the motion to dismiss. The opinion of the Supreme Court, rendered by Mr. Justice McReynolds, specifically holds that the delay in filing the disclaimer after the failure to seek a review of the decision holding the claim invalid, was unreasonable neglect and delay within the meaning of Section 4922 of the Revised Statutes. This Section provides:

"But no patentee shall be entitled to the benefit of this Section if he has unreasonably neglected or delayed to enter a disclaimer."

The opinion says:

"When a competent court has declared his pretensions without sufficient foundation, we think good faith and the spirit of the enactment demand that he act with such promptness as the circumstances permit either to vindicate his position or to relieve the public from further evil effects of his false assertion. But for the benign provisions of the statute, such an assertion would invalidate the whole patent; and these provisions were intended to

protect only those who by prompt action either seek to overturn an adverse ruling or retreat from a false position.

When the district court in Ohio declared claim 2 invalid, the owner of the patent might have appealed to the circuit court of appeals within thirty days and thus secured an early determination of his rights. He did not choose this course, but continued to hold himself out as possessor of the sole right to 'make, use and vend' under the rejected claim for nearly two years. Then he abandoned it. He made no effort promptly to vindicate what he had asserted nor did he surrender it. Thus he failed to earn the offered exemption and now he may not complain.

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Certainly, in this case where an appeal was taken by the defendants, it would have entailed no unreasonable hardship upon the patent owner promptly to have submitted the legality of the rejected claim for determination by the appellate court. The route to that end was obvious, easy, inexpensive. He deliberately failed to defend his assertion of right by appealing. He has been guilty of unreasonable delay and has not brought himself within the beneficent provisions of the statute."

The facts in this case are substantially identical with the facts before the Supreme Court in ENSTAN v. SIMON ASCHER CO. The final report of the Special Master finding claim 37 invalid was filed February 25, 1930. Defendants filed exceptions to the Master's report finding other claims of the patent valid and infringed. The plaintiff could have filed an exception and sought a review of the holding that claim 37 was invalid. This the plaintiff failed to do and was thereupon obligated promptly

to file a disclaimer as to claim 37. Thereafter, and for almost fourteen months, plaintiff neglected and failed to file any disclaimer as to claim 37. As said by the Supreme Court in the ENSTAN case, it would have entailed no unreasonable hardship upon plaintiff to have filed such an exception and submitted the legality of rejected claim 37 for determination by this court. Having foregone any right to seek a review as to the validity of claim 37, plaintiff was thereupon obligated to promptly file a disclaimer as to such claim, and the failure of plaintiff to do so for approximately fourteen months renders the patent wholly void, as held by the Supreme Court in the ENSTAN case.

The facts in this case cannot be distinguished from the facts in the ENSTAN case, and, accordingly, the motion to dismiss should be granted here as it was there.

Lyon & Lyon
Leonard S. Lyon
Attorneys for Defendants.

[Endorsed]: No. M-25-J United States District Court Southern District of Calif. Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation et al Defendant Motion to Dismiss. Due Service and receipt of a Copy of the within Motion, reviewing all objections, is hereby admitted this 17th day of June, 1931. Wallace R. Lane, Clarence J. Loftus, Raymond Ives Blakeslee Attys for Ptff Filed Jun 18 1931 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Lyon & Lyon, Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants.

DEPARTMENT OF COMMERCE
UNITED STATES PATENT OFFICE

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records of this office of Disclaimer, filed May 1, 1931, in the matter of the Reissue Letters Patent of Humphrey F. Parker, Assignor to Otis Elevator Company, Number 16,297, Granted March 23, 1926, for Improvement in Controls for Electric Elevators.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the City of [Seal] Washington, this twentieth day of June, in the year of our Lord one thousand nine hundred and thirty-one and of the Independence of the United States of America the one hundred and fifty-fifth.

Attest:

D E Wilson
Chief of Division.

Thomas E. Robertson
Commissioner of Patents.

[Stamp]: Mail Division May-1 31 U. S. Patent office

[Stamp]: Recorded U. S. Patent Office Issue Division May 1 1931 Liber 1 Page 447

DISCLAIMER

To the Commissioner of Patents:

Your petitioner, Otis Elevator Company, of Jersey City, New Jersey, a corporation of New Jersey, represents that Letters Patent of the United States, No. Reissue 16,297, were granted to it on March 23, 1926, for a certain improvement in Control for Electric Elevators; and that it is now the sole owner of the entire right, title and interest in and to said Letters Patent; and

Your petitioner hereby enters this disclaimer to claims 34, 35, 36 and 37 in said patent, which are in the following words, to-wit:

34. A control system for an elevator car comprising a plurality of switches, one for each of a plurality of landings, operable to cause the stopping of the car at the landings for which said switches are operated upon its approaching said landings in the down direction, a plurality of additional switches, one for each of said landings, operable to cause the stopping of the car at the landings for which said additional switches are operated upon its approaching said landings in the up direction, switching mechanism, said switching mechanism being operable to cause the starting of the car from each and every landing.

35. A control system for an elevator car comprising, a plurality of sets of switches, each set comprising a switch for each of a plurality of landings, the switches of each set being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction, and a plurality of additional sets of switches, each additional set comprising a switch

for each of said landings, the switches of each additional set being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction.

36. A control system for an elevator car comprising, a plurality of sets of switches, each set comprising a switch for each of a plurality of landings, the switches of each set being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction, a plurality of additional sets of switches, each additional set comprising a switch for each of said landings, the switches for each additional set being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction, and switching mechanism, said switching mechanism being operable to cause the starting of the car from each and every landing.

37. A control system for an elevator car comprising, a plurality of up switches within the car, one for each of a plurality of landings, and a plurality of up switches without the car, one at each of said landings, both the up switches within the car and the up switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction; a plurality of down switches within the car, one for each of said landings, and a plurality of down switches without the car, one at each of said landings, both the down switches within the car and the down switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction; and switching mechanism within the car, said switching

mechanism being operable to cause the starting of the car from each and every landing in either direction.

The said claims were inserted in said patent through inadvertence, accident or mistake, and without any fraudulent or deceptive intention. The sole reason for this disclaimer is that a Special Master, in the case of Otis Elevator Company v. Pacific Finance Corporation and Llewellyn Iron Works, now pending in and undecided by the District Court of the United States, for the Southern District of California, Central Division, has advised, for reasons likewise applicable to claims 34, 35 and 36, in a report filed by him, that said claim 37 is invalid as not complying with Section 4888 of the Revised Statutes, and as he "considered that the other claims amply protect the invention".

[Stamp]: Recorded U. S. Patent Office Issue Division May 1 1931 Liber 1 Page 448

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Signed at New York, in the County of New York, and State of New York, this 29th day of April, 1931.

OTIS ELEVATOR COMPANY,
By J H Van Alstyne
President.

Attest:
Thos. W. Fagan
Secretary.

Witnesses:
Nellie A. Coyne
Eric Volger

[Stamp]: Recorded U. S. Patent Office Issue Division May 1 1931 Liber 1 Page 449

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[Endorsed]: M-25-J Disclaimer-Let. Pat. R I-16,297 Filed July 27, 1931 R S Zimmerman, Clerk By Murray E Wire Deputy Clerk

UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff	)	
	)	No M-25-Eq.
vs.	)	
	)	MEMO-
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants	)	RANDUM OPINION

Plaintiff sued for an injunction and damages, charging infringement of claims 3, 22, 29, 37, 40, 41 and 65 of letters patent No. 16297, which is entitled "Control for electric elevators."

The cause was referred to a special master, the defendants not consenting, and thereafter, on February 25, 1930, the master filed his report with the court, finding that the defendants had infringed claims 3, 22, 29, 40 and 65. He found that claim 37 was invalid and that claim 41 was valid but not infringed. Specifications of exceptions were duly filed on the part of the defendants to the report of the master, and an oral argument was had thereon on October 15, 1930, which argument was in addition to extensive briefs theretofore filed.

On May 1, 1931, the plaintiff filed disclaimer in the United States Patent Office as to claim 37 which the master has determined was invalid. Pending a decision of the cause, defendants moved the court to dismiss the case on the ground that the plaintiff had unduly delayed the filing of its disclaimer as to claim 37, citing Ensten et al vs Simon Ascher & Company, 282 U. S. 445. The

argument on the motion to dismiss presented the contention that the plaintiff having failed to except to the finding of invalidity made by the master as to claim 37, and having allowed the time intervening from February 25, 1930, the date of the filing of the master's report, and May 1, 1931, to elapse without disclaiming, the case came within the effect of the decision above cited. That motion was submitted, and is now to be first disposed of. It would seem that where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim. It is true that no exception was taken to the report of the master finding claim 37 invalid, but the entire report was, at the time of the making of the motion, still before the court subject to being passed upon, changed or modified. There was no decree interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, hence in my view the matter remained at large and the commencement of the reasonable time within which the plaintiff might disclaim would be the entry of such decree. I am, therefore, of the opinion that the motion to dismiss should be denied, and it is so ordered.

We now pass to the consideration of the main case on the report of the master. The finding is that the defendants have infringed plaintiff's patent right. Plaintiff elevator company is the assignee of the inventor, Humphrey F. Parker. The latter filed his first application for patent on April 25, 1921, and patent issued thereon August 26, 1924. Parker offered his invention for sale to the plaintiff in 1922, which offer was at first not taken up, but at a later time (1925) the plaintiff bought the patent, paying a small sum of money for it. Reissue was made

at the instance of plaintiff. The defendant, Llewellyn Iron Works, installed for the Pacific Finance Corporation in an office building in Los Angeles City Elevator equipment consisting of a bank of four cars, designed to be operated at high speed for passenger service.

The master's report shows that he gave close study to the evidence presented to him, and that he acquired a very thorough knowledge of the mechanics—electrical and other kind—involved in the Pacific Finance installation, as well as those included within the specifications and claims of plaintiff's patent. The patent law which he applied to the facts as found by him seems to accord with well established principles.

An understanding of the design and working of the Parker invention can be quite readily understood, because it is comparatively simple. An understanding of the complicated apparatus used in the defendants' installation requires concentrated effort of many hours duration and involves the examination of a multitude of schedules and drawings. It is impossible to follow in detail a description of defendants' elevator system without resort to the drawings and schedules,—hence a closely particularized description cannot be set forth in any opinion unless the formal data referred to is made a part of it.

The witness DeCamp, an expert engineer, employed by the defendant, Llewellyn Iron Works, furnished the testimony from which the master made his conclusions with respect to the form and mode of operation of the alleged infringing installation.

In the patent sued upon, Parker, the inventor, stated as descriptive of his inventive idea, the following:

"This invention relates, generally, to a system and means for controlling electric elevators; and the invention has reference, more particularly, to a novel system and means of control whereby the elevator car may be caused to automatically stop in proper alignment with predetermined floor levels by virtue of the actuation or setting of secondary control means, which may be provided within the car alone, or both within the car and at each floor level; said secondary control means being adapted to cooperate with the master control switch within the car, which master control switch is subject to the manual control of the car operator. Furthermore, this invention relates to a system and means for controlling electric elevator cars, whereby the starting of the car, either up on down in the shaft, is entirely and singly within the manual control of the car operator, but whereby the stopping of the car at predetermined points in its ascent or descent may be automatically attained if desired.

"The invention has for its principal object to provide a novel system and means for controlling electric elevators of the general characters above mentioned, which is adapted to eliminate the errors made by inexpert operators, who bring the car to a stop a few inches above or below the proper level, and to also prevent such operators failing to stop at a floor which a passenger has previously called for."

In the drawings he illustrated the means and combination of means used as being a manually operated switch in the elevator car with push buttons in the car and at each floor landing, one for up and one for down, a floor selector operating in conjunction with the power means; means for establishing circuits to operate the motor switch

and reverse the same; means through electrical circuits whereby, by operation of the push buttons, the power of the hoisting motor would be applied and shut off, and circuit means whereby the push buttons, after the car reached the predetermined floor, would be reset. The master's report may be referred to for a more complete description of the Parker device. Distinguishing characteristics of that device are: When the manual control lever in the elevator car is moved to an up position, it moves a contacting plate across separate terminals, which complete the circuit to operate a switch on the driving motor and the car moves upward. The control level may then be swung to a neutral position without opening the power switch. This is accomplished by the use of a magnet, which becomes active when the up contact is made, and which holds the contacting plate in position of contact against a spring which, except for the exertion of the holding power of the magnet, would return the contacting plate to the "off" position, to follow the return of the control lever to neutral. The selector means consists of a disc, to which wires leading from the buttons and button relays are connected. The disc revolves synchronously with the movement of the elevator so that the lever of the selector will make contact with the floor or elevator button leads when the car arrives at the indicated floor, and through that means the circuit to the switch holding magnet will be broken. When that current is broken, the spring on the car lever will return the contact plates to the off position. Simultaneously, the push button will be reset by the energizing of a magnet coil winding on each button attachment. There is a tail piece to the control lever, which makes certain contacts, the effect of which is

not necessary to be discussed, although the contention is made by the defendants that in the operation of the lever, the latter contact will cause the combination to be inoperative because it will function to release the holding switch. I think that we may disregard the latter contention and assume that this tail piece function is not a material part of the invention mainly disclosed, because the manual switch may be used without it.

In order to determine just what it was that Parker conceived which involved invention and novelty, the development of the art in elevator control by electrical means as it existed at the time he obtained his patent must be carefully examined. If no such means of electrical control had theretofore existed and Parker had, for the first time, devised a system which supplied a new and highly desirable form long looked for by the manufacturers of elevators, the claim of a primary and pioneer invention might well be predicated. In the course of his findings, the master stated:

"Coming from one not trained in the art, it has taught the art a new means of control that solves many old problems. That it was contributed by an outsider negatives any theory that it was an obvious step. Otherwise, elevator engineers would have accomplished it long before Parker. * * * the invention, judged by the results, is a radical step forward. Parker is entitled to a high standing for the inventive thought expressed in his patent." Thus the master has characterized the Parker invention as being entitled to the tribute of great inventive advance over the prior art. Given that character, he necessarily assumes that a wide range of equivalents must be accorded

to it. This conclusion has fundamental relation to the finding of infringement as made by the master.

On the record presented, to which I have given careful and painstaking study, I am totally unable to agree with the master; my conclusion, to the contrary, is that when Parker conceived his invention, the art of elevator control by electrical means, if not already crowded, was certainly well occupied. Considering his elements separately, there was nothing at the time new in the use of push buttons at the floors or in the car which would operate through electrical magnets to connect and disconnect the current feeding the hoisting motor; there was nothing new in a selector means moving synchronously with the elevator car to make and break auxiliary circuits; there was nothing new in a circuit arrangement by which push buttons would be reset after being operated through coil wound magnets. At the time Parker conceived his invention, the type of electrically controlled elevators, such as is common in apartment houses and some business buildings, whereby, by means of push buttons at floor landings and in the car, the elevator can be started and will be stopped automatically, was in common use.

On October 7, 1902, a patent was issued to J. D. Ihlder (No. 710914). Ihlder's system included a single push button at each floor and push buttons in the car by which the car would be started and would automatically stop at the indicated floor. He further provided that the system should be "non-interferring", in that after a button indicating a particular floor was once pushed, the pushing of another button on another floor would not stop the car before it reached the first indicated stopping point. One of the features of the Parker system is that the car will

be stopped at the different floors in succession where several buttons have been simultaneously or successively set. Ihlder had the particular purpose of making his non-interferring, but as defendants' counsel argues, the mechanism of Ihlder's system might easily be adjusted, using ordinary engineering skill, so as to be either "interferring" or "non-interferring."

It would only serve to prolong this opinion to unnecessary length were I to discuss and analize the several prior art patents which were introduced in evidence, all referring to systems for the starting and stopping of elevator cars by electrical means, including the use of push buttons at the floors and in the car. All of these are illustrated in the exhibits and in the printed brief filed by the defendants. As to the form and mode of operation of the devices represented, there is no dispute. They are all cumulative evidence to the point that at the time Parker conceived his invention the art in which he was working was highly developed. Hence, it must be determined that this patentee, insofar as his system exhibits invention, is limited closely to the form and structure described, and that the range of equivalents allowed to him is restricted narrowly to those which substantially embody the things that he describes and specifies.

The important function that the Parker system is designed to perform is to stop an elevator car automatically at a floor landing. The patent shows no means of so producing the stop, except that a switch operates to disconnect the current from the driving motor. Parker adds that the time of the circuit-closing means shall be so arranged as to allow for "the timely operation of the usual braking mechanism to overcome the momentum of the

car so that the ultimate point at which the car comes to rest will be in proper alignment with the floor level." Braking means known and in use at the date of the patent, as I understand the evidence to show, included only a brake which might be operated electrically through a magnet, or by other power, and which would make contact with some of the revolving parts of the motor, or an attachment made therewith, so as to hold the motor in a locked position. No braking means were then in use which were adaptable to fast moving elevator cars and by means of which the car could be accurately leveled with a floor. It can be well understood that variation in the load carried by the car, unless the same was moving at a comparatively slow rate of speed, would make ordinary braking means then known unsuccessful in bringing the car to a floor level with any degree of accuracy. And here it may be stated that neither the control system of Parker nor any of those included in inventions theretofore made were adaptable to the operation of fast moving elevators such as are necessary to be used in buildings containing many stories like the modern skyscraper. It was admitted at the hearing before the master by plaintiff's counsel that further invention was required beyond that of Parker to make his system adaptable at all for fast moving elevators. Before referring particularly to the exceedingly complicated mechanism of the defendants' elevators, which are claimed to embody infringement of the Parker patent, it may be stated that I am unable to conclude that the Parker system could by any reasonable modification be transplanted into the elevator control system of the defendants; any attempt so to do would result in the essential means described by Parker being utterly changed, obliterated and

lost so that no substantial identity could be ascribed to the resulting combination. Parker never constructed or had constructed an installation demonstrating his system; neither does it appear that the plaintiff here, who purchased his patent, has ever used it in the form taught and specified in the patent. The plaintiff, subsequent to the date of the Parker patent, secured patents issued to it covering control systems for fast moving elevators. I do not understand that it is claimed that plaintiff made use of the Parker disclosure as specified at all, but that it adopted "equivalents" of the essential parts.

In its operation the main function of the Parker invention is to cut off the power from the hoisting motor when the elevator car reaches the predetermined floor. In the first place, the defendants' system of control does not stop the car by cutting off the power from the motor. At the time MS cam runs out from the roller on the leveling drum, the car has been practically stopped through the operation of the various relays affecting the current of the generator field. Direction contactor 27 is not opened until the car is about 3/4" from the floor. It is at this time contactor 27 is opened and brake releasing contactor 29 drops out and the brake is applied. Main line contactor 48, as I understand it, operated by contactor 15 on brake release 29, does not open to affect contactor 48 until after the car has come to a complete stop. Witness DeCamp, in that connection, testified:

"The generator armature is connected directly to the armature of the elevator hoisting motor by means of a main line contactor, which is closed while the elevator is in motion, and is kept closed for two or three seconds after the elevator has come to a complete stop. In other

words, the main connections between the Ward Leonard generator and the main elevator hoisting motors are never disconnected until it is absolutely sure that the elevator has come to a complete stop, and only then for two or three seconds afterwards."

I have let it be understood that the master's report properly describes the operation of defendants' system. Counsel for defendants has found some fault with the conclusion of the master where he says:

"In operation, the completion of the circuit through the car switches and 2U or 2D switches breaks the holding circuit to initiate the stopping of the car. It has been previously pointed out that these stopping circuits and circuit closing means are equivalent to the means disclosed by Parker."

The specific complaint is that the master's statement indicates a conclusion that the 2U or 2D switches break the holding circuit. The 2U and 2D switches operate intermediately only. For instance, referring to the use of 2U, which operates during the up movement of the elevator car; On the primary leveling drum carrying the 2U switch, the cam is short and only makes momentary contact, and then drops out and remains out. This contact causes relay No. 4 to energize relay No. 1. Relay No. 1 sets up a self-holding circuit, which maintains No. 1 during the slow down period until the car latch is raised. Relay No. 1 carries three normally open contacts, and one normally closed contact. One of the open contacts maintains No. 1 closed until the latch is raised. The second contact of No. 1 energizes coil 31, which is slow down contactor through resistor. The third contact on No. 1 energizes one side of coil 6, 7, 8, all of which, among others, insert resistance in the generator field in conjunction with the secondary slow down drum to reduce speed in diminishing steps. Without following through by number the contacts intervening or describing specifically the detailed operation

of the 3-E switches on secondary slow down drum, the point is reached where the back contact of No. 11 relay closes and circuit is set up to transfer the direction contactors to leveling drum No. 4 carrying the MS switches. After this time, direction contactor is entirely under the control of the cams on leveling drum No. 4. The car is then traveling at only the rate of about 25 feet per minute. When the car reaches within a fraction of an inch of the floor, the 4 MS switch is released by the cam running out from the switch roller, direction contactor 27 is opened to kill the generator field, the brake is released through contactor 29, the car stops level with the floor, contactor 15 on brake release 29 thereafter opens 31 and main line 48 and motor field 19 is de-energized. As before mentioned, the last operation occurs after the car has come to a complete stop.

There is no similarity between the control lever of the defendants' system and the Parker specially designed starting lever with its circuit closing plates held by an electro magnet. There is no identity, substantial or of other kind, between the Parker coil 32 and relay 46, the 2U or 2D switches, or other innumerable circuit holding relays and contactors used in defendants' high speed elevator control system. Admittedly, there is nothing in Parker's disclosure which can make his installation work where more than one elevator is being operated. Wonderful ingenuity is displayed in the highly complicated slow-down and floor selector machines used by the defendants. As before stated, the only way that the system used by the defendants can be pictured is to illustrate it with the drawings and photographs introduced in evidence and to follow through, step by step, using drawings reference figures, the entire course of operation from the time the operator turns his switch establishing contact admitting the current which actuates the several relays first placed in circuit to start the car on its journey. I have arrived at

an understanding of the complicated picture by close and arduous study, more study in fact than I have found necesary to devote to any case presented during my experience on the bench. It will not be useful now or helpful to an Appellate Court for me to attempt here to analize the system at length. Any judge who essays the necessary comparison between the Parker system and the one as to which the charge of infringement is based, will have before him the same task that I had. I have intended this to serve only as a statement of my conclusions. The illustrations used are necessarily imperfect for the reasons given.

I think the master's finding that claims 3, 22, 29, 40 and 41 are valid may be sustained as for the particular forms described in the Parker patent. The exceptions to the master's conclusions that the defendants have infringed are sustained. Findings and decree will be entered in favor of the defendants on the issue of infringement, with costs. An exception is noted in favor of the defendants to the court's order denying the motion to dismiss for lack of disclaimer filed, and the usual exception will be noted in favor of the plaintiff to the findings and decree when entered.

Dated October 2, 1931.

Wm. P. James
U. S. District Judge.

[Endorsed]: No. M-25-Eq. U. S. District Court Southern District of California. Otis Elevator Company, vs. Pacific Finance Corporation, and Llewellyn Iron Works, Memorandum Opinion Filed Oct 2 - 1931 R. S. Zimmerman, Clerk By Murray E. Wire Deputy Clerk

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY, –
Plaintiff, –
vs. – IN EQUITY
– NO. M-25-J
PACIFIC FINANCE CORPORATION –
and LLEWELLYN IRON WORKS, –
Defendants. –

ORDER ON FINDINGS OF FACT AND CONCLUSIONS OF LAW.

IT IS HEREBY ORDERED that the written opinion of this court, filed herein on October 2, 1931, be, and the same is hereby adopted, made and used as its findings of fact and conclusions of law and that said opinion be made a part of the record herein.

Wm P James
U. S. District Judge.

Dated November 30, 1931,

APPROVED AS TO FORM:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee
Counsel for Plaintiff.
Leonard S. Lyon
Counsel for Defendants.

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation & Llewellyn Iron Works Defendant Order on Findings of Fact and Conclusions of Law. Filed Nov 30 1931 R. S. Zimmerman, Clerk By Murray E Wire Deputy Clerk Lyon & Lyon, Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon 708 National City Bank Building Los Angeles, Cal. Attorneys for Defendants

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs. — IN EQUITY — No. M-25-J

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,

Defendants.

DECREE.

This cause having been brought on for final hearing upon pleadings and proofs and this court having on or about October 2, 1931, filed its written opinion herein, and having on or about November 30, 1931 entered an order herein adopting said opinion as its findings of fact and conclusions of law;

It is, therefore, FOUND, ADJUDGED AND DECREED:

First: That the patent in suit, being United States Letters Patent Reissue No. 16,297, granted March 23, 1926, to Humphrey F. Parker, for Control for Electric Elevators, is the property of plaintiff and is good and valid, particularly as to claims 3, 22, 29, 40, 41 and 65 and is sustained as for the particular forms described in the Parker patent;

Second: That defendants' motion to dismiss the bill of complaint herein on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 of said Parker patent, is hereby denied;

Third: That for the reasons stated in said opinion, defendants' control system for elevators herein complained of does not infringe claims 3, 22, 29, 40, 41 and/or 65 of the said Parker patent here asserted, and that the bill of complaint herein be dismissed;

Fourth: That defendants recover from plaintiff their taxable costs herein in the sum of ..... (to be taxed by the Clerk), and have judgment therefor; plaintiff to be allowed ten days after service of notice of taxation and memorandum of costs, by continuance, within which to present its objections either orally or in writing.

Wm P James
U. S. District Judge

Dated November 30, 1931.

APPROVED AS TO FORM:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
Counsel for Plaintiff.

Leonard S. Lyon
Counsel for Defendants.

Decree entered and recorded NOV 30 1931 R. S. ZIMMERMAN Clerk. By Murray E Wire Deputy Clerk.

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation & Llewellyn Iron Works Defendant Decree. Filed Nov 30 1931 R. S. Zimmerman, Clerk By Murray E Wire Deputy Clerk Lyon & Lyon, Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon 708 National City Bank Building, Los Angeles, Cal. Attorneys for Defendants.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,	)	
Plaintiff,	)	In Equity
vs.	)	
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,	)	No. M-25-J
Defendants.	)	

— — — — — — — —

PETITION FOR APPEAL WITH SUPERSEDEAS

Plaintiff herein feeling itself aggrieved by the decree dismissing the Bill of Complaint in this cause, entered in this Court on November 30, 1931, hereby appeals from that decree to the United States Circuit Court of Appeals for the Ninth Circuit, for the reasons specified in the assignment of errors filed herewith, and prays that this appeal may be allowed, and that a citation be granted directed to the above named Defendants commanding them, and each of them, to be and appear before the United States Circuit Court of Appeals for the Ninth Circuit; that a transcript of the record proceedings, papers and exhibits on which said order and decree were made duly authenticated, be filed with the Clerk of the United States Circuit Court of Appeals for the Ninth

Circuit; that an order be made fixing the amount of security which the Plaintiff shall give and furnish upon said appearance, and that upon the giving of such security all further proceedings in this cause, including the recovery of costs, be suspended and stayed until the termination of said Appeal by the said United States Circuit Court of Appeals for the Ninth Circuit.

OTIS ELEVATOR COMPANY

By Wallace R Lane,
Clarence J Loftus,
Raymond Ives Blakeslee
Its Counsel

December 14, 1931.

[Endorsed]: In Equity No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendant. Petition for Appeal With Supersedeas Filed Dec. 14 1931 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Parkinson and Lane Chicago, Illinois, and Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Solicitors & Counsel for Pltff.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs,	)	In Equity
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	No. M-25-J

* * * * * * * * * *

NOTICE OF APPEAL.

To Pacific Finance Corporation, Llewellyn Iron Works, Defendants and Messrs. Lyon & Lyon, Counsel for Defendants, Los Angeles, California.

Comes now the Otis Elevator Company, above named plaintiff, by its counsel and gives notice to defendants, Pacific Finance Corporation and Llewellyn Iron Works, that an appeal is hereby taken to the United States Circuit Court of Appeals for the Ninth Circuit from the decree of this court entered herein on November 30, 1931, in so far as said decree is adverse to plaintiff.

OTIS ELEVATOR COMPANY,
By Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,

December 14, 1931.

[Endorsed]: In Equity. No. M-25-J In the United States District Court: Southern District of California: Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Notice of Appeal Received copy of within Notice of Appeal this 14th day of December, 1931. Lyon & Lyon Leonard S. Lyon Solicitors & Counsel for Defendants. Filed Dec 15 1931 R. S. Zimmerman, Clerk By Thomas Madden, Deputy Clerk Parkinson and Lane Chicago, Illinois -and- Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Solicitors and Counsel for Pltff.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	In Equity
	)	
PACIFIC FINANCE CORPORATION, and LLEWELLYN IRON WORKS,	)	No. M-25-J
	)	
	)	
Defendants.	)	

ASSIGNMENT OF ERRORS

Now comes the plaintiff by its counsel, and says that the decree entered in the above entitled cause on or about November 30, 1931, was erroneous and unjust to plaintiff in so far as it decrees:

(a) That defendants' control system for elevators herein complained of does not infringe claims 3, 22, 29, 40, 41 and/or 65 of United States Reissue Letters Patent No. 16,297, granted March 23, 1926, to Humphrey F. Parker for Control for Electric Elevators, asserted herein, each of which the Court held valid;

(b) That claims 3, 22, 29, 40, 41 and 65 of said Parker patent held valid are limited to the particular forms described in the Parker patent;

(c) That plaintiff's bill of complaint be dismissed; and

(d) That defendants recover from plaintiff their taxable costs, and that defendants have judgment therefor;

AND PLAINTIFF ASSIGNS ERROR AS FOLLOWS:

1. The Court erred in not holding the Parker reissue patent No. 16,297, March 23, 1926, and particularly claims 3, 22, 29, 40, 41 and 65 thereof, infringed by the defendants' control system for elevators herein complained of;

2. The Court erred in not granting an injunction and accounting as prayed for in the bill;

3. The Court erred in not overruling each and all of defendants' exceptions to the Master's report;

4. The Court erred in not adopting and following the Master's interpretation of claims 3, 22, 29, 40 and 65 as applied to defendants' installations complained of;

5. The Court erred in not holding that the invention of the Parker patent in suit had been long sought by those having to do with elevator construction, and constitutes a novel and important advance in the art;

6. The Court erred in holding claims 3, 22, 29, 40, 41 and 65 of the Parker patent in suit should be limited to the particular forms shown in that patent;

7. The Court erred in not so construing claims 3, 22, 29, 40, 41 and 65 of the Parker patent in suit as to include defendants' structures within the scope of each of them;

8. The Court erred in not awarding costs to plaintiff to be taxed against the defendants;

9. The Court erred in dismissing the bill of complaint herein at plaintiff's costs; and

10. The Court erred in denying plaintiff the relief sought by its bill of complaint and to which it is clearly entitled.

WHEREFORE, plaintiff prays that said decree of the United States District Court for the Southern District of California, Central Division, be reversed, with costs, and that the said District Court be directed to enter a decree sustaining plaintiff's bill of complaint and awarding the relief prayed for therein.

OTIS ELEVATOR COMPANY,
By Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,

Dated, December 14, 1931.

[Endorsed]: In Equity No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation, and Llewellyn Iron Works, Defendants. Assignment of Errors Filed Dec 14 1931 R. S. Zimmerman, Clerk By Edmund L. Smith, Deputy Clerk Parkinson and Lane Chicago, Illinois -and- Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Solicitors & Counsel for Plaintiff

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY	)	
	(	
Plaintiff,	)	
	(	
	)	
vs.	(	In Equity
	)	
	(	No. M-25-J
PACIFIC FINANCE CORPORATION	)	
and LLEWELLYN IRON WORKS,	(	
	)	
Defendants.	(	

* * * * * * *

ORDER ALLOWING APPEAL

Upon motion of Raymond Ives Blakeslee. Counsel for Plaintiff, it is ordered that an appeal to the United States Circuit Court of Appeals for the Ninth Circuit, from the decree heretofore filed and entered herein, be and the same is hereby allowed.

It is further ordered that the bond on appeal be fixed at the sum of $2520.50, the same to act as a supersedeas and also as a bond for costs on appeal and pending proceedings in the Court for taxation of costs are also suspended.

Done at Los Angeles, California, this 14th day of December, 1931.

Paul J McCormick
United States District Judge

Approved nunc pro tunc or of the date at which Judge McCormick signed the above. January 11, 1932—

Wm P James
Dist Judge

[Endorsed]: In Equity No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Order Allowing Appeal Filed Dec 14 1931 R. S. Zimmerman, Clerk By Edmund L. Smith, Deputy Clerk Parkinson and Lane Chicago, Illinois -and- Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Solicitors and Counsel for Plaintiff.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs. — In Equity

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, — No. M-25-J

Defendants.

ORDER ALLOWING CROSS APPEAL.

On motion of the Soliictors for Defendants, PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,

IT IS HEREBY ORDERED that a cross-appeal to the United States Circuit Court of Appeals for the Ninth Circuit from the Final Decree rendered and entered in the above-entitled cause on the 30th day of November, 1931, is hereby allowed, and that a certified copy of the record, proceedings and documents in this cause be forthwith transmitted to the said Circuit Court of Appeals for the Ninth Circuit. It is further ordered that the bond on cross-appeal be fixed at the sum of Two Hundred and Fifty Dollars.

Dated this 29 day of January, 1932.

Wm P James
U. S. District Judge.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs. — In Equity

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, — No. M-25-J

Defendants.

PETITION FOR CROSS-APPEAL.

The above-named defendants, conceiving themselves aggrieved by the Final Decree rendered and entered in the above-entitled cause on November 30, 1931, do hereby cross-appeal from said decree to the Circuit Court of Appeals for the Ninth Circuit for the reasons set forth in the assignment of errors filed herewith, and the defendants pray that their cross-appeal be allowed and that citation be issued as provided by law, and that a transcript of the record, proceedings, and documents upon which said decree was based, duly authenticated, be sent to the United States Circuit Court of Appeals for the Ninth Circuit, under the rules of such Court in such cases made and provided.

Your petitioners further pray that proper order be made in respect to the security required of the petitioners on said cross-appeal.

Dated this 29th day of January, 1932.

PACIFIC FINANCE CORPORATION and
LLEWELLYN IRON WORKS, Defendants,
By Lyon & Lyon
Leonard S Lyon
Frederick S Lyon
Their Solicitors.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs. — In Equity

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, — No. M-25-J

Defendants.

CROSS ASSIGNMENT OF ERRORS.

Now come the Defendants, PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, in the above-entitled cause, and in pursuance of and in obedience to the rules and practices of the United States Circuit Court of Appeals for the Ninth Circuit made and provided, makes and files the following cross-assignment of errors upon which they will rely in the prosecution of their cross-appeal from the Final Decree made and entered the 30th day of November, 1931, in the above-entitled cause, to-wit:

1. That the Court erred in holding United States Letters Patent, Re-issue No. 16,297, in suit, good and valid.

2. That the Court erred in denying the motion of defendants to dismiss the bill of complaint herein on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 of said Re-issue Letters Patent.

Whereupon, defendants specifically pray that said decree be reversed only insofar as it sustains the validity of the Re-issue Letters Patent in suit, and insofar as it denies the aforesaid motion of defendants to dismiss the bill of complaint herein on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 of said Re-issue Letters Patent.

Dated this 29th day of January, 1932.

PACIFIC FINANCE CORPORATION and
LLEWELLYN IRON WORKS, Defendants,

By Lyon & Lyon
Leonard S Lyon
Frederick S Lyon

Their Solicitors.

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company Plaintiff vs. Pacific Finance Corporation et al Defendant Petition for Cross-Appeal Order Allowing Cross-Appeal and Cross Assignment of Errors. Filed Jan 29 1932 R. S. Zimmerman, Clerk By Thomas Madden Deputy Clerk Lyon & Lyon, Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon 707 National City Bank Building Los Angeles, Cal. Attorneys for Defendants.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	In Equity No. M-25-J
—vs—	
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	

BOND ON APPEAL WITH SUPERSEDEAS

KNOW ALL MEN BY THESE PRESENTS: That NATIONAL SURETY COMPANY, a corporation organized and existing under the laws of the State of New York and duly licensed to transact business in the State of California, is held and firmly bound unto PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, defendants in the above entitled suit, in the penal sum of TWO THOUSAND FIVE HUNDRED TWENTY AND 50/100 DOLLARS ($2,520.50), to be paid to the said Pacific Finance Corporation and Llewellyn Iron Works, their successors and assigns, which payment well and truly to be made the National Surety Company binds itself, its successors and assigns firmly by these presents.

Sealed with the corporate seal and dated this 15th day of December, 1931.

The condition of the above obligation is such that whereas the said plaintiff, OTIS ELEVATOR COMPANY, of the above entitled suit, is about to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit to reverse an order or decree made,

rendered and entered on the 30th day of November, 1931, by the District Court of the United States for the Southern District of California, Central Division, in the above entitled cause, by which the bill of complaint of said plaintiff was ordered dismissed, with costs to defendants, which have been made to appear to amount to the sum of Two thousand two hundred and seventy and 50/100 Dollars ($2,270.50) or less; and whereas in the same Court there has been made and entered an order dated December 14, 1931, that the bond of plaintiff on said appeal be fixed at the said sum of Two thousand five hundred and twenty and 50/100 Dollars ($2,520.50) to act as a supersedeas and also as a bond for costs on appeal, and likewise suspending proceedings in said Court for taxation of costs;

NOW, THEREFORE, the condition of the above obligation is such that if the said OTIS ELEVATOR COMPANY, plaintiff and appellant, shall prosecute its appeal to effect, and answer all said costs and costs in said Appellate Court, if it fail to make good its appeal, then this obligation shall be void; otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the corporate name of said surety is hereunto affixed and attested by its duly authorized attorneys in fact, at Los Angeles, California, this 15th day of December, 1931.

[Seal] NATIONAL SURETY COMPANY,
By R. O. Wilson, Attorney in Fact

STATE OF CALIFORNIA,)
) SS.
County of Los Angeles)

On this 15th day of December, in the year one thousand nine hundred and 31, before me NADINE GIRARD a Notary Public in and for said County and

State, residing therein, duly commissioned and sworn, personally appeared R. O. WILSON known to me to be the duly authorized Attorney in Fact of NATIONAL SURETY COMPANY, and the same person whose name is subscribed to the within instrument as the Attorney in Fact of said Company, and the said R. O. WILSON acknowledged to me that he subscribed the name of NATIONAL SURETY COMPANY thereto as principal, and his own name as Attorney in Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this Certificate first above written.

[Seal] Nadine Girard
Notary Public in and for Los Angeles County, State of California
My Commission Expires June 16, 1933

EXAMINED AND RECOMMENDED FOR APPROVAL, AS PROVIDED IN RULE 28.

Raymond Ives Blakeslee
Attorney

I HEREBY APPROVE THE FOREGOING BOND: Dated, the 16th day of December, 1931.

Paul J. McCormick
Judge or Clerk.

[Endorsed]: In the United States District Court, Southern District of California, Central Division Otis Elevator Company, Plaintiff, vs. Pacific Finance Corporation, and Llewellyn Iron Works, Defendants. In Equity No. M-25-J Bond on Appeal with Supersedeas Filed Dec 16 1931 R. S. Zimmerman, Clerk By Edmund L. Smith, Deputy Clerk Wallace R. Lane and Clarence Loftus, Chicago, Ill., and Raymond Ives Blakeslee, 631 Title Ins. Bldg., 433 So. Spring St., Los Angeles, Cal. Solicitors and Counsel for Plaintiff.

UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff, –vs– PACIFIC FINANCE CORPORATION and LEWELLYN IRON WORKS, Defendants.	3843780 In Equity No. M-25-J BOND ON CROSS-APPEAL

KNOW ALL MEN BY THESE PRESENTS: That FIDELITY AND DEPOSIT COMPANY OF MARYLAND, a corporation organized and existing under the laws of the State of Maryland and duly licensed to transact business in the State of California, is held and firmly bound unto OTIS ELEVATOR COMPANY, Plaintiff in the above-entitled suit, in the penal sum of Two Hundred Fifty and 00/100 ($250.00) Dollars, to be paid to the said Otis Elevator Company, its successors and assigns, for which payment well and truly to be made the Fidelity and Deposit Company of Maryland binds itself, its successors and assigns, firmly by these presents.

Sealed with the corporate seal and dated this 29th day of January, 1932.

THE CONDITION of the above obligation is such that, Whereas, the said Defendants, Pacific Finance Corporation and Llewellyn Iron Works, in the above-entitled suit, are about to take a cross-appeal to the United States Circuit Court of Appeals for the Ninth Circuit to reverse the decree in the aforesaid suit made and entered on

November 30, 1931, only insofar as it sustains the validity of the Re-issue Letters Patent in suit and denies the motion of said Defendants to dismiss the bill of complain therein on the ground that Plaintiff unduly delayed filing its disclaimer as to claim 37 of said Re-issue Letters Patent in suit; and

WHEREAS an order has been made and entered in said cause, dated January....., 1932, that the bond of defendants on said cross-appeal be fixed at the sum of Two Hundred Fifty and 00/100 ($250.00) Dollars;

NOW, THEREFORE, the condition of the above obligation is such that if said Defendants, PACIFIC FINANCE CORPORATION and LLEWELLWN IRON WORKS, shall prosecute their cross-appeal to effect, and answer all costs, if they fail to make good their cross-appeal, then this obligation shall be void; otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the corporate name of said Surety is hereunto affixed and attested by its duly authorized Attorney in Fact and Agent at Los Angeles, California, this 29th day of January, 1932.

FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By W. H. Cantwell
Attorney in Fact

[Seal] Attest S. M. Smith, Agent

EXAMINED AND RECOMMENDED FOR APPROVAL AS PROVIDED IN RULE 28

Frederick S. Lyon
Attorney

I HEREBY APPROVE THE FOREGOING BOND AND THE SURETY THERON:

Wm. P. James
U. S. District Judge

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

On this 29th day of January, 1932, before me Theresa Fitzgibbons, a Notary Public, in and for the County and State aforesaid, duly commissioned and sworn, personally appeared W. H. Cantwell and S. M. Smith known to me to be the persons whose names are subscribed to the foregoing instrument as the Attorney-in-Fact and Agent respectively of the Fidelity and Deposit Company of Maryland, and acknowledged to me that they subscribed the name of the Fidelity and Deposit Company of Maryland thereto as Principal and their own names as attorney-in-Fact and Agent, respectively.

[Seal] Theresa Fitzgibbons
Notary Public in and for the State of California, County of Los Angeles.

[Endorsed]: In Equity No. M-25-J Bond on Cross-Appeal Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants Fidelity and Deposit Company of Maryland Baltimore (Cut) Fidelity and Surety Bonds Burglary and Plate Glass Insurance Department of Southern California Bank of America Building 650 S. Spring St. Los Angeles, Calif. Filed Jan 29 1932 R. S. Zimmerman, Clerk By Thomas Madden, Deputy Clerk

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY,	)	
	)	
Plaintiff,	)	
	)	No. M-25-J
vs.	)	
	)	Equity
PACIFIC FINANCE CORPORATION	)	
and LLEWELLYN IRON WORKS,	)	
Defendants.	)	

PLAINTIFF'S PRAECIPE

To the Clerk of the Court:

We hereby respectfully request you to make a transcript of record in the above entitled suit to be filed in the office of the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, pursuant to appeal heretofore allowed to plaintiff, and include in such transcript of record the following:

1. Bill of Complaint

2. Order of Judge Henning of July 18, 1927, extending defendants' time to answer

3. Answer of defendants to bill of complaint filed on or about September 13, 1927

4. Motion to amend defendants' answer and affidavit of William A. Doble, filed in support thereof.

5. Defendants' amendment to their answer to bill of complaint.

6. Motion of defendants to refer case to Special Master to be heard, tried and determined.

7. Order of reference signed by Judge James on or about January 21, 1929

8. Plaintiff's petition to vacate order of reference filed on or about March 4, 1929.

9. Order denying plaintiff's petition to vacate order of reference.

10. Minutes of the hearing before the Master in narrative and condensed form.

11. Stipulation and order approving narrative and condensed statement.

12. Report of Special Master filed February 25, 1930.

13. Opinion of Judge James, filed on or about October 2, 1931.

14. Decree filed on or about November 30, 1931.

15. Order on findings of fact by Judge James, and Conclusions of Law, filed on or about November 30, 1931.

16. Plaintiff's petition for appeal and order allowing the same, filed on or about December 14, 1931.

17. Plaintiff's notice of appeal.

18. Assignment of errors of plaintiff filed on or about December 14, 1931.

19. Citation on plaintiff's appeal filed on or about December 16, 1931.

20. Bond and Supersedeas on plaintiff's appeal filed on December 16, 1931.

21. Orders extending applicant's time to docket and file the record with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, filed on or about January 11, 1932.

22. This Praecipe.

Wallace R. Lane,
Clarence J. Loftus
Raymond Ives Blakeslee,
COUNSEL FOR PLAINTIFF

[Endorsed]: No. M-25-J Equity In the United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff, -vs- Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Plaintiff's Praecipe Received two copies of within Plaintiff's Praecipe this 28th day of June, 1932. Lyon & Lyon, Leonard S Lyon Counsel for Defendants Filed Jun 29 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Office of Parkinson & Lane Marquette Building Chicago

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,
Plaintiff,
vs.
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants.

IN EQUITY

No. M-25-J.

DEFENDANTS' PRAECIPE.

TO THE CLERK OF THE COURT:

We hereby respectfully request you to include in the transcript of record in the above-entitled suit, to be filed in the Office of the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, on the appeals taken by plaintiff and defendants respectively herein, the following additional portions of the record:

1. Defendants' exceptions to report of Special Master (filed March 15, 1930).

2. Defendants' Motion to Dismiss (filed June 18, 1931).

3. Certified copy of disclaimer filed in the United States Patent Office May 1, 1931, re Reissue Letters Patent No. 16,297 (filed July 27, 1931).

4. Petition for Cross-Appeal.
5. Cross-Assignment of Errors.
6. Bond on Cross-Appeal.
7. Order Allowing Cross-Appeal.
8. Citation on Cross-Appeal.
9. Stipulation re hearing both appeals in this cause on a single record.
10. This praecipe.

Lyon & Lyon
Leonard S. Lyon
Attorneys for Defendants.

SO ORDERED June 29 1932.

Wm P James
U. S. DISTRICT JUDGE.

[Endorsed]: No. M-25-J United States District Court Southern District of Calif. Central Division. Otis Elevator Company Plaintiff vs. Pacific Finance Corporation et al Defendant. Defendants' Praecipe. Due Service and receipt of 2 Copies of the within Praecipe is hereby admitted this 28th day of June, 1932 Raymond Ives Blakeslee Atty. for Plaintiff Filed Jun 29 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Lyon & Lyon, Frederick S. Lyon, Leonard S. Lyon, Lewis E. Lyon 708 National City Bank Building Los Angeles, Calif. Attorneys for Defendants.

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff,	)	
vs.	)	IN EQUITY
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants.	)	No. M-25-J.

STIPULATION REGARDING COST OF PRINTING OF THINGS TO BE SPECIFIED AND FINALLY APPROVED BY COURT IN DEFENDANTS' PRAECIPE ON THEIR APPEAL HERETOFORE TAKEN HEREIN TO THE CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT.

IT IS HEREBY STIPULATED AND AGREED by and between plaintiff and defendants in the above entitled cause, by their counsel, that defendants shall initially defray and cause to be paid the expense of printing and reproducing and certifying those portions of the record to be incorporated into the transcript on such appeal as shall be specified in defendants' praecipe to be filed herein and as shall furthermore be approved

by the Court or Clerk as proper parts of such transcript.

This stipulation shall be printed and included in the transcript on appeal.

Dated, Los Angeles, California, June 4, 1932.

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
SOLICITORS & COUNSEL FOR PLAINTIFF

Lyon & Lyon
Leonard S. Lyon
SOLICITORS & COUNSEL FOR DEFENDANTS

APPROVED June 29, 1932

Wm P. James
U. S. DISTRICT JUDGE

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants. Stipulation Regarding Cost of Printing of Things to Be Specified and Finally Approved by Court in Defendants' Praecipe on Their Appeal Heretofore Taken Herein to the Circuit Court of Appeals for Ninth Circuit. Filed Jun 29 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk Wallace R. Lane, Clarence J. Loftus, Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Attorneys for Plaintiff

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION

OTIS ELEVATOR COMPANY, Plaintiff and Appellant, vs. PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants and Appellees.	District Court No. M-25-J In Equity STIPULATION REGARDING PRINTING AND FILING OF TRANSCRIPT ON APPEAL AND BOOK OF EXHIBITS
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Defendants and Appellants, vs. OTIS ELEVATOR COMPANY, Plaintiff and Appellee.	

IT IS HEREBY STIPULATED AND AGREED by and between the parties as mentioned in the above identified appeals, that the transcript on said appeals, including the condensed statement of evidence and the various papers designated by both appellants and appellees above named in connection with their appeals, all as approved and settled by this Court June 28, 1932, be

printed and certified and filed at the same time as the book of exhibits heretofore stipulated to be printed and certified and filed, for use on both said appeals, subject to the order of this court; and that this stipulation so ordered be printed at the end of said transcript on appeal and as part thereof.

Dated, Los Angeles, California, July 20, 1932.

Wallace R Lane,
Clarence J Loftus
Raymond Ives Blakeslee
Solicitors and Counsel for Otis Elevator Company

Lyon & Lyon
Leonard S. Lyon
Solicitors and Counsel for Pacific Finance Corp. and Llewellyn Iron Works.

APPROVED AND SO ORDERED this 22 day of July, 1932.

Wm P James
U. S. DISTRICT JUDGE

[Endorsed]: No. M-25-J United States District Court Southern District of California Central Division Otis Elevator Company, Plaintiff and Appellant and Appellee vs. Pacific Finance Corporation and Llewellyn Iron Works, Defendants and Appellees and Appellants Stipulation Regarding Printing and Filing of Transcript on Appeal and Book of Exhibits Filed Jul 22 1932 R. S. Zimmerman, Clerk. By C A Simmons Deputy Clerk Wallace R. Lane, Clarence J. Loftus, Raymond Ives Blakeslee 433 South Spring Street Los Angeles, California Attorneys for Otis Elevator Co.

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA CENTRAL DIVISION.

OTIS ELEVATOR COMPANY,

Plaintiff,

vs.

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,

Defendants.

IN EQUITY

NO. M-25-J

STIPULATION RE HEARING BOTH APPEALS IN THIS CAUSE ON A SINGLE RECORD.

IT IS HEREBY STIPULATED AND AGREED by and between the parties to the above-entitled cause by their attorneys that both the appeal taken herein by plaintiff and the appeal taken herein by defendants be heard on the same transcript and book of exhibits prepared on the appeal taken by plaintiff, subject to any order as to costs that may hereafter be made in this cause.

(Signed) Wallace R. Lane
Clarence J. Loftus
Raymond Ives Blakeslee
SOLICITORS AND COUNSEL FOR PLAINTIFF.

Lyon & Lyon
Leonard S. Lyon
SOLICITORS AND COUNSEL FOR DEFENDANTS.

APPROVED: June 29, 1932.

(Signed) Wm. P. James
U. S. District Judge.

APPROVED: Oct. 11, 1932.

Curtis D. Wilbur
JUDGE, U. S. CIRCUIT COURT OF APPEALS
NINTH CIRCUIT.

[Endorsed]: Stipulation, etc., Filed October 12, 1932 Paul P. O'Brien, Clerk.

A TRUE COPY

Attest: October 12, 1932.

(Signed) Paul P. O'Brien, Clerk.

IN THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT

OTIS ELEVATOR COMPANY, Appellant, vs. PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS, Appellees.	ORDER EXTENDING TIME TO FEBRUARY 14, 1932, TO FILE RECORD AND DOCKET CAUSE.

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed said appellant to docket said cause and file the record thereof with the Clerk of the United States Circuit Court of

Appeals for the Ninth Circuit be, and the same hereby is, enlarged and extended to and including the 14th day of February, 1932.

Dated, Los Angeles, California, January 11, 1932.

Wm P James
U. S. DISTRICT JUDGE

[Endorsed]: Filed Jan 13 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER EXTENDING TIME TO MARCH 15, 1932, TO FILE RECORD AND DOCKET APPEAL.

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed said appellant to docket said cause and file the record thereof with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, be, and the same hereby is, enlarged and extended to and including the 15th day of March, 1932.

Dated, Los Angeles, California, February 11, 1932.

Wm P James
U. S. DISTRICT JUDGE

[Endorsed]: Filed Feb 12 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

[Title of Court and Cause.]

ORDER EXTENDING TIME TO APRIL 15, 1932, TO FILE RECORD AND DOCKET CAUSE ON CROSS-APPEAL.

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed appellees to docket their cross-appeal in said cause and file the record thereof with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, be, and the same hereby is, enlarged and extended to and including the 15th day of April, 1932.

Dated, Los Angeles, California, February 16, 1932.

Wm P James
U. S. District Judge.

[Endorsed]: Filed Feb 17 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER EXTENDING TIME TO APRIL 15, 1932, TO FILE RECORD AND DOCKET APPEAL.

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed said appellant to docket said cause and file the record thereof with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, be, and the same hereby

is, enlarged and extended to and including the 15th day of April, 1932.

Dated, Los Angeles, California, March 14, 1932.

Wm P James
U. S. DISTRICT JUDGE

[Endorsed]: Filed Mar 15 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER EXTENDING TIME TO MAY 15, 1932, TO FILE RECORD AND DOCKET CAUSE ON CROSS-APPEAL.

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed appellees to docket their cross-appeal in said cause and file the record thereof with the clerk of the United States Circuit Court of Appeals for the Ninth Circuit, be, and the same hereby is, enlarged and extended to and including the 15th day of May, 1932.

Dated Los Angeles, California, March 30, 1932.

Wm P James
U. S. District Judge.

[Endorsed]: Filed Apr 1-1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

[Title of Court and Cause.]

ORDER EXTENDING TIME TO JUNE 15, 1932, TO FILE RECORD AND DOCKET APPEAL

Good cause appearing therefor, it is hereby

ORDERED that the time heretofore allowed said appellant to docket said cause and file the record thereof with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit, be, and the same hereby is, enlarged and extended to and including the 15th day of May. 1932.

Dated, Los Angeles, California, April 13, 1932.

Wm P James
U. S. DISTRICT JUDGE

[Endorsed]: Filed Apr 14 1932 Paul P. O'Brien, Clerk Filed Oct. 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

IN THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT

OTIS ELEVATOR COMPANY,
Plaintiff and
Appellant,

vs.

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants and
Appellees.

—AND—

PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,
Defendants and
Appellants,

vs.

OTIS ELEVATOR COMPANY,
Plaintiff and
Appellee.

ORDER

Counsel for the respective parties in the above entitled appeals in this cause having so stipulated, and good cause otherwise thereunto appearing,

IT IS HEREBY ORDERED that the times for filing the transcripts on both said appeals and docketing both

said appeals with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit be and hereby are both extended to and including July 1, 1932.

Dated, Los Angeles, California, May 5, 1932.

Wm P James
U. S. DISTRICT JUDGE

APPROVED:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee
Solicitors & Counsel for
OTIS ELEVATOR COMPANY

Lyon & Lyon
Frederick S. Lyon
Leonard S. Lyon
Solicitors & Counsel for
Pacific Finance Corporation and
Llewellyn Iron Works.

[Endorsed]: Filed May 6-1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER

Counsel for the respective parties in the above entitled appeals in this cause having so stipulated, and good cause otherwise thereunto appearing,

IT IS HEREBY ORDERED that the times for filing the transcripts on both said appeals and docketing both

said appeals with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit be and hereby are both extended to and including August 1, 1932.

Dated, Los Angeles, California, June 28, 1932.

Wm P James
U. S. DISTRICT JUDGE

APPROVED:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
Solicitors and Counsel
for OTIS ELEVATOR COMPANY

Lyon & Lyon
Leonard S. Lyon
Solicitors and Counsel for
PACIFIC FINANCE CORPORATION
and LLEWELLYN IRON WORKS.

[Endorsed]: Filed Jun 29 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER

Counsel for the respective parties in the above entitled appeals in this cause having so stipulated, and good cause otherwise thereunto appearing,

IT IS HEREBY ORDERED that the times for filing the transcripts on both said appeals and docketing both

said appeals with the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit be and hereby are both extended to and including September 1, 1932.

Dated, Los Angeles, California, July 22, 1932.

Wm P James
U. S. DISTRICT JUDGE

APPROVED:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
Solicitors and Counsel for
OTIS ELEVATOR COMPANY

Lyon & Lyon
Leonard S. Lyon
Solicitors and Counsel for
PACIFIC FINANCE CORP. and
LLEWELLYN IRON WORKS

[Endorsed]: Filed Jul 25 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER

Counsel for the respective parties in the above entitled appeals in this cause having so stipulated, and good cause otherwise thereunto appearing,

IT IS HEREBY ORDERED that the times for filing the transcripts on both said appeals and docketing both said appeals with the Clerk of the United States Circuit

Court of Appeals for the Ninth Circuit be and hereby are both extended to and including October 1, 1932.

Dated, Los Angeles, California, August 19, 1932.

Wm H Sawtelle
JUDGE OF U. S. CIRCUIT COURT OF APPEALS

APPROVED:

Wallace R. Lane,
Clarence J. Loftus,
Raymond Ives Blakeslee,
Solicitors and Counsel for
OTIS ELEVATOR COMPANY

Lyon & Lyon
Leonard S. Lyon
Solicitors and Counsel for
PACIFIC FINANCE CORP. and
LLEWELLYN IRON WORKS

[Endorsed]: Filed Aug 19 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

---

[Title of Court and Cause.]

ORDER
(Undocketed)

Counsel for the respective parties in the above entitled appeals in this cause having so stipulated, and good cause otherwise thereunto appearing,

IT IS HEREBY ORDERED that the times for filing the transcripts on both said appeals and docketing both said appeals with the Clerk of the United States Circuit

Court of Appeals for the Ninth Circuit be and hereby are both extended to and including November 1, 1932.

Dated, Los Angeles, California, September 26, 1932.

Wm P James
U. S. DISTRICT JUDGE

APPROVED:

Wallace R. Lane,
Clarence J. Loftus
Raymond Ives Blakeslee,
Solicitors and Counsel for
OTIS ELEVATOR COMPANY

Lyon & Lyon
Leonard S. Lyon
Solicitors and Counsel for
PACIFIC FINANCE CORPORATION and
LLEWELLYN IRON WORKS

[Endorsed]: Filed Sep 27 1932 Paul P. O'Brien, Clerk Filed Oct 17 1932 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

OTIS ELEVATOR COMPANY	)	
	(	
Plaintiff,	)	
	(	
	)	
vs.	(	In Equity
	)	
	(	No. M-25-J
PACIFIC FINANCE CORPORATION and LLEWELLYN IRON WORKS,	)	
	(	
	)	
Defendants.	(	

* * * * * * *

CLERK'S CERTIFICATE.

I, R. S. Zimmerman, clerk of the United States District Court for the Southern District of California, do hereby certify the foregoing volume containing 686 pages, numbered from 1 to 686 inclusive, together with Volume II (plaintiff's exhibits) and Volume III (defendants' exhibits), to be the Transcript of Record on Appeal in the above entitled cause, as printed by the appellant, and presented to me for comparison and certification, and that the same has been compared and corrected by me and contains a full, true and correct copy of the citation to Pacific Finance Corporation, et al.,; citation to Otis Elevator Company; bill of complaint; order extending time to answer; answer to bill of complaint; notice of hearing of motion to amend answer; motion and affidavit of William A. Doble attached thereto; amendment to answer to bill of

complaint; motion to refer; order of reference; petition to vacate order of reference and for other relief; minute order denying motion to vacate; stipulation and order approving condensed statement of evidence and statement of evidence; report of special master; exceptions of defendants to report of special master; notice of motion to dismiss and motion to dismiss; disclaimer filed in the United States Patent Office May 1, 1931; memorandum opinion; order on findings of fact and conclusions of law; decree; plaintiff's petition for appeal; plaintiff's notice of appeal; plaintiff's assignment of errors; order allowing appeal for plaintiff; order allowing cross-appeal; petition for cross-appeal; cross-assignment of errors; bond and supersedeas on plaintiff's appeal; bond on cross-appeal; plaintiff's praecipe; defendants' praecipe; stipulation regarding cost of printing and stipulation regarding printing and filing of transcript; copy of stipulation re hearing both appeals in this cause on a single record; order extending time to February 14, 1932, to file record and docket cause; order extending time to March 15, 1932, to file record and docket appeal; order extending time to April 15, 1932, to file record and docket cause on cross-appeal; order extending time to April 15, 1932, to file record and docket appeal; order extending time to May 15, 1932, to file record and docket cause on cross-appeal; order extending time to June 15, 1932, to file record and docket appeal; order dated May 5, 1932; order dated June 28, 1932 order dated July 22, 1932; order dated August 19, 1932; order (undocketed) dated September 26, 1932, and plaintiff's exhibits and defendants' exhibits contained in Volumes II and III hereof.

I DO FURTHER CERTIFY that the amount paid for printing the foregoing record on appeal is $ and that said amount has been paid the printer by the appellant herein and a receipted bill is herewith enclosed, also that the fees of the Clerk for comparing, correcting and certifying the foregoing Record on Appeal amount to..... . and that said amount has been paid me by the appellant herein.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Seal of the District Court of the United States of America, in and for the Southern District of California, Central Division, this..... day of October in the year of Our Lord One Thousand Nine Hundred and Thirty-two, and of our Independence the One Hundred and Fifty-seventh.

R. S. ZIMMERMAN,
Clerk of the District Court of the United States of America, in and for the Southern District of California.

By

Deputy.

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT.

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

BRIEF FOR OTIS ELEVATOR COMPANY, PLAINTIFF, APPELLANT AND CROSS-APPELLEE.

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Plaintiff.

THE GUNTHORP-WARREN PRINTING COMPANY, 210 WEST JACKSON, CHICAGO

FILED
JAN 27 1933

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IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT.

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

BRIEF FOR PLAINTIFF OTIS ELEVATOR COMPANY AS APPELLANT.

STATEMENT.

This is a suit brought by the Otis Elevator Company against the Pacific Finance Corporation and Llewellyn Iron Works for the infringement of the Parker Reissue Patent No. 16,297, granted March 23, 1926, on a *"Control"* for electric elevators, and owned by plaintiff (Plaintiff's Exhibit 2, R. Vol. 2, 11*).

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* As both parties are appealing, to avoid confusion, the parties will be referred to herein as in the lower court. This brief relates only to plaintiff's appeal.

Where "R." only is used, it refers to the Vol. 1 of the printed transcript. "R. Vol. 2 and 3," respectively, refers to the volumes of printed exhibits.

We have italicized certain of the quotations for emphasis.

Claims 3, 22, 29, 40, 41 and 65 of the patent in suit were each held valid by Special Master, David B. Head (R. 589-590) to whom the case was originally referred at the request of defendants (R. 33) and over plaintiff's protest (R. 35, 36-44). The Master also held all of these claims except 41, infringed. The Master heard and saw all of the witnesses. He examined plaintiff's "Signal Control" elevators installed in Los Angeles utilizing the Parker invention. He also examined defendants' elevators, charged to infringe, installed in the Pacific Finance Building, both during the progress of the hearing and while the cause was under submission (R. 552).

In the decree appealed from, the lower court, whose only contact with the merits of this case was on exceptions to the Master's report, likewise sustained the validity of each of these claims, but held that defendants had not infringed any of them (R. 646).

As both the Master and lower court held the claims of the Parker patent now before this Court valid, plaintiff-appellant is here appealing from that portion of the decree only which holds claims 3, 22, 29, 40, 41 and 65 not infringed.

Parker's inventive concept is directed to a "Control" for an electric elevator in which an attendant operator is stationed in the car, and in which the starting of the car is entirely under the control of the attendant whereas the stopping of the car at the landings is automatically attained by pushing buttons either in the car or at the landings. The "car switch" type of electric elevator, when harnessed with the Parker "Control," has resulted in an entirely new type known as the "Signal Control Elevator." The Parker invention is not concerned with mechanisms having to do with acceleration, deceleration, leveling, operation of the doors and other auxiliaries in use on electric elevators, pre-

vious to his invention, except that it is designed to be and is used in connection therewith.

At the time Parker made his invention electric elevators, operated by car attendants, were extensively used, and their equipment included electrically controlled means by which the car was automatically accelerated, decelerated and brought to an exact floor level, but in these *both the starting and stopping* of the car was controlled by the attendant throwing the *"car switch"* in the car to *"on"* and *"off"* position respectively.

In the old attendant operated "car switch" controlled electric elevators the *stopping* as well as the *starting* of the car being wholly within the control of the car operator, it frequently happened that cars ran by landings at which passengers desired to stop, and that the operator failed to stop for persons waiting at various floors to take the car, even though the latter had pushed buttons at landings which caused signals to be flashed in the car. This was due to such causes as the operator failing to remember the different floors called by the passengers as they entered the car, failing to observe signals in the car, or to the inattention or laziness of the operator. This frequent passing of floors by car operators had always caused much annoyance to the public. (R. 74, 75.)

Briefly stated, the Parker "Control" for attendant-operated, electric elevators comprises,

(a) an electrical circuit controlled only by a car switch to start and run the car;

(b) a holding circuit initiated by the operation of the car switch, which so maintains the running circuits that the car will continue to run independent of the car switch, and the operating handle of the car switch may be returned to "off" position after the car is started without stopping the car; and

(c) secondary circuits provided with manual closing means (push buttons) located in the car and at each landing and automatic circuit closing means syn-

chronized with the movement of the car for initiating the slowing down and stopping of the car at the desired landing.

When any of the usual attendant operated electric elevator driving and operating mechanisms have been harnessed with the Parker *"Control"* the car can be started *only* by moving the car switch to "on" position and once started the car will continue to run, after the handle of this switch has been moved to "off" position (R. 101), until it is automatically stopped, at any floor, through electrically controlled means initiated by pushing buttons in the car, corresponding to the floors at which passengers desired to stop, or by pushing buttons at any landing where passengers are waiting to take the car.

Previous to the time Parker made his invention he had done no work on elevators. He had ridden in numerous elevators in different cities, such as New York, London, Detroit, and in his own country, New Zealand. He had observed and been frequently annoyed by car operators both passing the floor where he was waiting to take the car and carrying him by a floor which he had called when riding in the car. (R. 74, 75.)

His purpose, as shown by his patent (p. 1) and testimony (R. 74-76), was to correct these conditions and eliminate the human errors of the elevator attendants, which brought them about.

Parker by training and observation was versed in electrical subjects. He knew from his observations, as did most everyone, that the electrical circuits by which elevators were started, run and stopped were controlled solely by the operation of a car switch in the car, and that if the operator failed to throw his car switch to "off" position at the proper time before reaching a landing, he had to jockey the car back and forth to bring the car floor ap-

proximately level with the desired floor landing. (Patent, p. 1, lines 39-48.)

He also knew that some of these elevator constructions had automatic devices for bringing the car to an exact floor level, providing the operator threw his car switch off at the proper time, so that the car was decelerated and came to a stop within a range of one and a half or two feet on either side of the landing (R. 76, 108). He also realized that in modern buildings using high speed elevators, it was necessary to have a car attendant always present and definitely in charge of the car (R. 75).

When Parker made his invention he did not propose or suggest to make any substantial change in the various mechanisms by which cars were started, accelerated, run, decelerated, stopped, or even self-leveled.

His patent and testimony clearly show that he contemplated the continued use of these various mechanisms, but that they should be in subjection at all times to his patented *"Control"* for accomplishing his purpose, once they are harnessed by it.

While skilled elevator engineers had, of course, been very much more familiar with the various electrical mechanisms used for starting, accelerating, decelerating, stopping, and self-leveling operator-controlled elevators, and with push button elevators of various kinds (R. 563, 581-2), and with the inherent difficulties of operators failing to stop at floors called by passengers in the car or in response to the call of passengers waiting at the landings, than Parker, none of them had solved the problem of correcting and eliminating these difficulties.

It remained for Parker, a non-member of the elevator industry (R. 574), to provide a simple control for these highly complicated electric elevator mechanisms—

"whereby the starting of the car, either up or down in

the shaft, is entirely and singly within the manual control of the car operator, but whereby the stopping of the car at predetermined points in its ascent or descent may be automatically attained'' (Patent, p. 1, lines 32-38).

This court in *Butler* v. *Burch Plow Co.,* 23 F. (2d) 15, 24, quotes from an earlier case apt here, as follows:

> ''The courts have frequently held that one who takes an old machine, and by a few even inconsequential changes compels it to perform a new function, and do important work which no one before dreamed it capable of performing, is entitled to rank as an inventor.''
>
> *O'Rourke etc. Co.* v. *McMullen,* 160 Fed. 933, 938.

See also

> *Bliss* v. *Spangler,* 217 Fed. 394.

The grant of the Parker original and reissue patents is ''prima facie evidence of both validity and utility'' of his pioneer concept, (*Gandy* v. *Main Belting Co.,* 143 U. S. 587; *Lehnbeuter* v. *Holthaus,* 105 U. S. 94, 96; *Hildreth* v. *Mastoras,* 257 U. S. 27; *Eibel Co.* v. *Paper Co.,* 261 U. S. 45, 60; *Diamond Rubber Co.* v. *Consolidated Rubber Tire Co.,* 220 U. S. 428).

PARKER FULLY REALIZED THE DIFFICULTIES WITH PREVIOUS ELEVATORS AND THE SOLUTION OF THESE PROBLEMS WAS THE OBJECT AND PURPOSE OF HIS INVENTION.

Previous to his invention Parker had ridden in numerous electric elevators and had frequently observed conditions which rendered them unsatisfactory in use. Regarding such elevators he states (R. 74):

> ''Referring to the objections that were prevalent, the operator frequently went by the floor where you wished to stop, and you had to repeat the number and the operator came back. That caused delay. Also when waiting for a car at a floor landing after pressing a button, the cars went by and it was annoying to have to press the button again, and perhaps even see

> a second car go by. * * * I realized the necessity of high speed elevators, of having someone definitely in charge of the car, and yet if the car were to stop at the wish of the passenger, it was desirable to have automatic means to do that."

He says that when he was in Detroit in July 1920 he stopped at the Tuller Hotel where the elevator service seemed particularly bad (R. 75).

> "These observations caused me to realize that there was necessity for these conditions to be corrected and I proceeded to try to find some way of doing it. My thought along that line resulted in a system of control which would eliminate the errors I had experienced."

At that time he realized that the car should be *started only* by an operator in charge of the car, as he (R. 75)—

> "considered it essential for the safety of the passengers *to have the means for starting the car entirely within the control of the operator.*"

In explaining the mechanism shown in his patent to his patent attorney he stated that by it he wanted (R. 76):

> "to perfect manual control at the starting under the control of the operator, and automatic stopping provided within the car and on the floor landings,"

and—

> "showed him my mechanism by which that was to be accomplished."

At the time he sold his patent to the Otis Elevator Company, he again stated to its representative (R. 79):

> "that the invention consisted essentially in the *manual starting* of the elevator by *means within the single control of an operator,* and the automatic stopping of the elevator by means located on the floor landings and also within the car."

PLAINTIFF UTILIZES PARKER INVENTION IN ITS "SIGNAL CONTROL" ELEVATORS.

The "Control" for electric elevators of the Parker patent is largely responsible for a new type of elevator now widely used and known as "Signal Control Elevators" (R. 60. See also Master's Report, R. 565).*

The first "Signal Control" elevators utilizing the Parker invention were installed by plaintiff in the Standard Oil Building in New York City in the early part of 1924 and are still in operation (R. 53, 142; for cut of this building see R. Vol. 2, 104).

Plaintiff's "Signal Control" elevators were first installed in San Francisco at the Pacific Telephone and Telegraph Building in 1925 (R. 147) where they may be seen.** (For cut of this building see R. Vol. 2, 64).

The Master's findings remain unchallenged by any evidence that (R. 564):

> "as a part of the Pacific Telephone and Telegraph Company installation the plaintiff followed the teachings of Parker's disclosure."

and that (R. 565):

> "In commercializing their 'signal control' elevators the plaintiff has met with success. This success is due, in large measure to those features that resulted from Parker's disclosure. Parker's *automatic control* has

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* The Court may be interested in reading at the outset the article in the Scientific American of October, 1925, entitled "Elevator with Brains" here in evidence (R. Vol. 2, pp. 54, 55). This briefly describes and illustrates the operation of the Otis "Signal Control" elevators made under the Parker patent in suit and gives a general understanding of how the device operates and what it accomplishes (R. 65-66). This was published before defendant Llewellyn Iron Works started to design its infringing elevators in October, 1925 (R. 396). It is reproduced for the convenience of the court in the fore part of the appendix to this brief.

** A wiring diagram of this installation is in evidence as Defendants' Exhibit DD" (offered R. 512), and "a straight line diagram of the important currents" (R. 564) is reproduced as Plate V in the appendix to this brief.

Some of the other buildings where Otis "Signal Control" elevators are installed are listed in Plaintiff's Exhibit 13 (R. Vol. 2, 57, 58, 139, 140). Among those listed under San Francisco are Hunter-Dulin Building (See cut, R. Vol. 2, 59) and Russ Building (See cut, R. Vol. 2, 65).

eliminated the difficulties which resulted from human error such as operator's forgetting floor stops and passing waiting passengers."

EARLY DIFFICULTIES AND COMMERCIAL SUCCESS OF PARKER INVENTION.

At the outset of the plaintiff's introduction of this device, competitors West of the Rockies opposed its use and would say (R. 58)

> "that our (plaintiff's) signal control elevators in this territory was a claptrap or unnecessary device * * * and that equally good service could be accomplished by manually controlled elevators under proper conditions."

To overcome this resistance from competitors and the trade, plaintiff took architects, builders and contractors to various jobs where the Parker "Control" had been installed and showed them the installation. It thereby demonstrated the entire practicability and utility of the Parker invention, for (R. 60)

> "it is more impressive and more convincing to see the simplicity and accuracy of the operation than to attempt to describe it."

As a result of such demonstrations of the Parker "Signal Control" elevators

> "There is a constantly increasing demand for the signal control. It is being accepted as the best or standard for the very highest type of buildings. This is due primarily to the satisfactory operation and the demonstration, by actual installation of the success of the type for the purpose for which it has been installed." (R. 60.)
>
> "The approximate sales of these signal control elevators by the Otis Elevator Company throughout the country since they were first put out" * * *, up to April 1929, were "about $33,000,000.00." (R. 59.)

This is a "fact to which great weight is to be given" in determining invention. (*Stebler* v. *Riverside Heights*

Orange Growers' Asso., 205 Fed. 735 (C. C. A. 9), and cases there cited.) As said by the Supreme Court in the *Eibel Paper case,* 261 U. S. 45, at page 56, this

> "is very weighty evidence to sustain the presumption from his (Parker's) patent that what he discovered and invented was new and useful."

ADVANTAGES AND NOVELTY OF PARKER INVENTION.

The Parker pioneer "Control" made possible the numerous advantageous results described by Parker, and by the plaintiff and defendants alike in connection with the sale of their very complicated elevator mechanisms.

The advantages of the Parker concept and the results obtained by his "Control," when applied to a "car switch" electric elevator, of starting only from within the car by operating the "car switch," and of automatically stopping the car at any floor, in response to push buttons located either within the car or at each landing, were entirely new. The record shows that these advantages and results had not been secured before the Parker invention. In fact, a thoroughly experienced electrical engineer, testifying on behalf of the defendants, said that previous to the Parker invention, he (R. 339)

> "had never seen any drawings or descriptions of any devices of elevators which were started only by an operator operating a switch within the car and which could be automatically stopped either by pushing buttons within the car or from the landing, and the starting could not be done from the push-buttons. I had never heard of anything like it."

The cross-examination of defendants' expert, Mr. Doble, likewise shows that no one of the prior art patents relied upon by defendants disclosed any structure which had in it a "Control" mechanism which would accomplish this result.

Parker's invention is truly a pioneer in this type of con-

trol. As said by this court (Gilbert and Ross, Circuit Judges, and Wolverton, District Judge), speaking through Circuit Judge Gilbert in *Kings County Raisin & Fruit Co.* v. *United States Consolidated Seeded Raisin Co.,* 182 Fed. 59, at 63, in finding infringement, the

> "machine being the first successful machine to accomplish a new result" is accordingly "entitled to a broad and liberal construction."

This court in *Butler* v. *Plow Co.,* 23 F. (2d) 15, 24, also aptly quotes from the *Eibel case* (261 U. S. 45, 63), as follows:

> "A patent which is only an improvement on an old machine may be very meritorious and entitled to liberal treatment."

For further advantages of the Otis "Signal Control" elevators, made possible by its utilization of the Parker invention, see the testimony of Mr. Charles of San Francisco (R. 55-58), Mr. Crabbe of New York (R. 194-196), and Mr. Reed of San Francisco (R. 115-122).

PARKER'S "CONTROL" IN DEFENDANTS' ELECTRIC ELEVATORS.

The single installation of four elevators, against which the charge of infringement is directed, was admittedly made by the Llewellyn Iron Works and installed and operated in the Pacific Finance Building in Los Angeles (R. 49).

These four elevators are represented in evidence by defendants' stipulated wiring diagrams (Plaintiff's Exhibits 4-I to 4-X inclusive) and by Plaintiff's Exhibits 5, 6, 8 and 9 (R. Vol. 2, 30-44).

In tracing the circuits of defendants' installation the Master used defendants' exhibits O-1, O-2, O-3 and O-4 (R. 575; R. Vol. 3, 189-192), and photographs, defendants' exhibits I-1 to I-9 inclusive, and defendants' exhibit N (R. Vol. 3, 179-188).

The Vice-President of defendant company and its Chief

Engineer, Mr. Baruch, admits that defendants claimed for their elevators, here charged to infringe, that (R. 133):

> "this so-called automatic stopping control or signal control elevator of the Llewellyn Iron Works accomplishes the same results as the Otis signal control elevator."

He more fully shows that defendants' elevators embody the concept of Parker's pioneer "Control" and that their operation corresponds to that of the Parker patent and to plaintiff's installation made under it, by stating (R. 133-134):

> "In the ordinary course of operation in the Pacific elevator construction, the *starting* of the car *is done entirely* by the *operator* and the *stopping is done* either by the operator pushing *a button in the car* or the passenger pushing *one at the landing.*"
>
> "Neither *the passenger* outside the elevator *nor the operator* in the car *can start* the car, except the operator within the car may use the master switch for starting it in the Pacific Finance Building."
>
> "In the Pacific Finance elevators the operator from within the car may push a button corresponding to any floor as the floor is called. And when he or she has done that the car automatically stops at the floor which is indicated without having the operator do anything else, and when any passenger at any landing pushes either the up or down button, the car is automatically stopped without the operator in the car having to do anything."

Defendants' witness, DeCamp, fully confirms this (R. 397).

MASTER FULLY UNDERSTANDS THE PARKER PATENT AND BOTH PLAINTIFF'S "SIGNAL CONTROL" ELEVATORS AND DEFENDANTS' "AUTOMATIC STOPPING CONTROL" ELEVATORS UTILIZING IT.

The Master examined both the plaintiff's "Signal Control" elevators in Los Angeles and the defendants' elevators at the Pacific Finance Building, in Los Angeles, each of which utilize the Parker invention, on at

least two occasions during the progress of the hearing and while the cause was under submission (R. 552). All of the witnesses were examined in the presence of and questioned by the Master concerning the construction and operation of the Parker patent, the Otis "Signal Control" elevators, and the defendants' installation, with diagrams before him. He fully understood and appreciated the Parker "Control" and the radically new functions it performed. He accurately grasped the Parker concept.

He also appreciated the advantage of taking out of the hands of the operator everything, except

(a) the starting of the car, and

(b) the pushing of buttons, in the car, corresponding to the floor at which the passengers desired to stop, as the passengers enter the car and call their floors, which results in the automatic stopping of the car at each floor for which a button has been pushed.

He also appreciated, from the testimony of witnesses who appeared before him, that when an elevator is controlled by the Parker invention, the stopping of the car, at the landings desired by the passengers or intending passengers, once buttons had been pushed either in the car or at the landings, is entirely automatic and that the car would stop, in sequence at the floors for which buttons had been pushed, without the operator having to do anything with his car switch, and that the car was *started only* from the car switch. He also found that this was a radically new concept.

We respectfully refer this Court to the Master's report for a correct understanding of the Parker concept and proper appreciation of the Parker "Control" for electric elevators. He finds from the undisputed evidence of witnesses who appeared before him that the success of the Parker invention, is due to its adaptability for use in connection with previous and later elevator installations. He

points out the results which it has accomplished, and its position in the art.

The Master was clearly right in his finding that the Parker pioneer "Control" accomplished an entirely new result and injected into the elevator art a practical means for accomplishing that result, and that (R. 574):

> "Coming from one not trained in the art, it has taught the art a new means of control that solves many old problems. That it was contributed by an outsider negatives any theory that it was an obvious step. Otherwise, elevator engineers would have accomplished it long before Parker * * * the invention, judged by the results, is a radical step forward. Parker is entitled to a high standing for the inventive thought expressed in his patent."

The lower court states (R. 636) "the master's report may be referred to for a more complete description of the Parker device" and (R. 634):

> "The master's report shows that he gave close study to the evidence presented to him, and that he acquired a very thorough knowledge of the mechanics, electrical and other kind involved in the Pacific Finance installation, as well as those included within the specifications and claims of plaintiff's patent. The patent law which he applied to the facts as found by him seems to accord with the well established principles."

and that (R. 642):

> "I have let it be understood that the master's report properly describes the operation of defendants' system."

In view of these statements of the lower court as to the Master's understanding of the Parker invention and patent and plaintiff's and defendants' devices, which he saw and examined, and of the the court's failure to understand these, we respectfully submit that the Master's description of the invention and of plaintiff's and defendants' installations utilizing the Parker "Control" for electric elevators, as well as his findings thereon, should be used as a basis for this Court's opinion.

The Master's report should be taken as presumptively correct and should be followed unless an obvious error has occurred in the application of the law, or a serious and important mistake has been made in the consideration of the proof. The burden is on the defendants to clearly establish the mistake or misconduct. This they have failed to do.

The language of the Supreme Court in *Adamson* v. *Gilliland,* 242 U. S. 350, is particularly applicable to the situation here. Speaking through Mr. Justice Holmes the court said at page 353:

> "Considering that a patent has been granted to the plaintiff the case is preeminently one for the application of the practical rule that so far as the finding of the *master* or judge *who saw the witnesses* 'depends upon conflicting testimony, or upon the credibility of witnesses, or *so far as there is any testimony consistent with the finding, it must be treated as unassailable.*' "

Kimberly v. *Arms,* 129 U. S. 512, 523.

Empire Rubber & Tire Co. v. *De Laski & Thropp,* 281 Fed. 1 (C. C. A. 3).

Davis v. *Schwartz,* 155 U. S. 631.

Crawford v. *Neal,* 144 U. S. 585, 596.

Furrer v. *Ferris,* 145 U. S. 132, 134.

Snow v. *Snow,* 270 Fed. 364, 366, 367 (App. D. C.).

Nash v. *Milford,* 33 App. D. C. 142, 144, 149.

Lawson v. *U. S. Mining Co.,* 207 U. S. 1, 12.

Mason v. *United States,* 260 U. S. 545, 556.

Cramer v. *United States,* 261 U. S. 219, 226.

Walsh Construction Co. v. *City of Cleveland,* 271 Fed. 701, 703, 704 (D. C. Ohio).

Westinghouse v. *Wagner,* 281 Fed. 453, 462 (C. C. A. 8).

Armstrong v. *Belding,* 297 Fed. 728 (C. C. A. 2).

Tilghman v. *Proctor,* 125 U. S. 136, 149-150.

THE LOWER COURT, WHO HEARD THE CASE ONLY ON EXCEPTIONS TO THE MASTER'S REPORT, FAILED TO UNDERSTAND THE PARKER INVENTION AND MISCONSTRUED THE PARKER PATENT.

The lower court, on the other hand, hearing the case solely on exceptions to the Master's report, neither examined plaintiff's nor defendants' structures, nor had them explained to him by witnesses, from diagrams or otherwise. He failed to understand the Parker "Control," its operation and its easy applicability to and use in connection with well-known electric elevators because—

(1) He even failed to realize that the use of the Parker "Control" prevented the elevator from *being started* by passengers *pushing buttons either in the car or at various landings,* and that it provided an electric "Control" which permitted the car to be *started only* and *singly* by the operator within the car throwing his switch to "on" position, so that the car thereafter would run until automatically stopped in response to electrically controlled means initiated by pushing buttons in the car or at the landings.

(2) In his opinion (R. 636) the lower court refers to the drawings of the Parker patent as illustrating "means through electrical circuits whereby, by operation of the *push buttons,* the power of the hoisting motor *would be applied"* as well as "shut off."

The *push buttons* of the Parker patent have nothing whatever to do with *applying* the power to the hoisting motor either in the Parker patent, in plaintiff's "Signal Control" elevators or defendants' structure. The *push buttons* of the Parker patent *are used only* for the setting up of circuits *which cause the* automatic *stopping* of the car. This vital misunderstanding of the operation of the Parker device led to the lower court's failure to appreciate the Parker invention and what it accomplished.

Such an operation as the court attributes to the structure of the Parker patent would entirely defeat the purpose of the Parker concept.

It is quite unnecessary to cite authorities on the fundamental rule that an asserted patent must be construed according to its definitely expressed objects. It is evident that the lower court failed to give the Parker claims the scope to which they are clearly entitled, due to his misapprehension of the Parker concept and invention and his improper analogy between it and the Ihlder 1902 patent, 710,914 (R. Vol. 3, 369) which the Master says "is the closest reference" (R. 560). The lower court also so treats it (R. 638).

The claims in suit clearly cover defendants' control.

It is well settled that an alleged prior patent must be construed so as to carry out the object set forth and operate substantially as described. *It is not to be so interpreted as to defeat the very object of such patent.* Yet this is just what the lower court has done with respect to the Ihlder patent. (See *infra,* p. 126.)

Clough v. *Barker,* 106 U. S. 166, 176.

Topliff v. *Topliff,* 145 U. S. 156, 161.

Naylor v. *Alsop Process Co.,* 168 Fed. 911 (C. C. A. 8).

Kryptok v. *Stead Lens Co.,* 207 Fed. 85, 92 (D. C. Mo.).

General Electric Co. v. *Hoskins Mfg. Co.,* 224 Fed. 464, 467 (C. C. A. 7).

Munising Paper Co. v. *American Sulphite Pulp Co.,* 228 Fed. 700, 703, 704 (C. C. A. 6).

Frey v. *Marvel Auto Supply Co.,* 236 Fed. 916 (C. C. A. 6).

Goessling Box Co. v. *Gumb,* 241 Fed. 674 (C. C. A. 8).

The lower court also failed to appreciate the radical step forward which the evidence shows, and the Master found, characterized the Parker invention. He for the first time pro-

vided a "Control" whereby the elevator car must be *started singly* and *only* by the operator throwing the car switch *within the car* to "on" position, (it does not permit of its being *started* by pushing buttons at landings or in the car) in combination with means for automatically stopping the car at various landings, in succession, *only* in response to push buttons in the car corresponding to those landings, or to push buttons at the landings.

That the lower court failed to appreciate this invention is clearly shown by his opinion, which states (R. 637):

> "If no such means of electrical control had theretofore existed and Parker had, for the first time, devised a system which supplied a new and highly desirable form long looked for by the manufacturers of elevators, the claim of a primary and pioneer invention might well be predicated."

The record conclusively shows that no such "Control" for electric elevators existed before the Parker invention and the Master so found (R. 561, 567, 569, 574). Had the lower court appreciated this, he would of necessity have reached the same conclusion as to infringement as did the Master.

PLAINTIFF'S ASSIGNMENT OF ERRORS

Plaintiff insists that the lower court erred (R. 651) in decreeing

> (a) that defendants do not infringe the claims of the Parker patent here asserted,
> (b) in dismissing the bill of complaint, and
> (c) in denying the plaintiff the relief sought by its bill.

ARGUMENT.

Parker was not the first to provide an Electric Elevator or an Electrical Control therefor. These were very old, but he was the *first* to provide a "Control" for an electric elevator which so functions and operates as to insure the *starting* of the car "*entirely* and *singly*" in the manual control of the car operator, and the stopping automatically attained, in sequence at the different floors, in response to push buttons located in the car and at the different floors.

The "Controls" of the prior art, for the starting and stopping of Electric Elevators, may be divided into two general classes:

First. The "*car switch*" type, in which both the starting and stopping of the car is controlled entirely through the operation of a car switch in the car by an attendant. This type has been generally used in office buildings.

Second. The "*push button*" type, in which the car is controlled by the passengers and intending passengers themselves. In this type, a passenger in the car, desiring to be carried to a certain floor, pushes a button in the car for that floor which causes the car to start and go to that floor. Likewise, an intending passenger at a floor, desiring to use the car, pushes a button at that floor which causes the car to start and come to that floor. In these elevators no one else can use the elevator until after the one first pushing a button gets through with it. This type is used to some extent in houses and small apartments, where the traffic and speed elements are unimportant and would be of no practical value for the modern high office buildings. It is the type shown in the Ihlder patent. (R. Vol. 3, 369.) It is discussed both *supra* and *infra.*

Electric elevators of both these types have been made and sold by the plaintiff and others for more than thirty-

five (35) years and by the plaintiff in California for thirty (30) years or more (R. 87).

With the *first* type "Control," that is, the *"car switch,"* the operator had to carry in his mind the various floors called by the different passengers as they entered the elevator in order to deliver them to the floor desired by each, or the passenger had to call the floor before it was reached to prevent his being carried by. The operator also had to depend upon remembering the signals flashed in his car, in order to pick up a passenger standing at a given floor who had signalled him from that floor. This was true regardless of the kind of mechanism used for accelerating, decelerating or self-leveling in connection with such style of "Control."

This resulted in passengers being very frequently carried by the floor at which they intended to land and required the operator to bring them back to that floor by reversing his car switch.

Frequently it happened that passengers standing on various floors, which the elevator was intended to serve and who desired to go up or down, were passed by the operator and they were compelled to wait for another trip of the elevator or until a second elevator stopped for them. These objections and disadvantages were long and well known (R. 51-53, 55-59, 74-75, 194-197, Parker Patent, p. 1, lines 39-48).

It was with this *first type,* the *"car switch"* attendant controlled elevators, that Parker's *"Control"* had primarily to do. It was designed to be incorporated into this type in such a way as to have the *starting* of the car entirely in the hands of the operator and to attain the stopping by automatic means.

NATURE OF INVENTION FULLY DISCLOSED IN THE PARKER PATENT.

The Parker original patent on a "*Control* for Electric Elevators" was issued August 26, 1924, (application filed April 25, 1921). It was assigned to the Otis Elevator Company, plaintiff, November 12, 1925. Within fifteen (15) months of the issue of this patent, *i. e.,* on November 13, 1925, the application for reissue was filed and promptly thereafter the patent was reissued on March 23, 1926, No. 16,297. The specification and drawing of the reissue patent are identical with those of the original patent.

The title of the patent is "*Control* for *Electric* Elevators."

Parker states that he has (Patent, p. 1, line 5)—

> "invented certain new and useful Improvements in *Controls for Electric Elevators.*"

The Parker invention is especially designed and stated to be (Patent, p. 1, line 16):

> "a *system* and *means* for *controlling electric elevators.*"

This is repeatedly stated in his Patent (p. 1, lines 31, 40 and elsewhere).

The original Parker patent and its reissue, as well as the testimony of the inventor himself, show that the Parker invention relates to a pioneer concept and resides in *means for so controlling electric elevator mechanisms of the "car switch" type,*

> "whereby the *starting of the car,* either up or down in the shaft, *is entirely* and *singly* within *the manual control* of the car operator, but whereby *the stopping* of the car at predetermined points in its ascent or descent may be *automatically* attained" (Patent, p. 1, lines 32-38).

The Parker patent refers to his "Control for Electric Elevators" (Patent, p. 1, line 19) as—

> "a novel system and means of control whereby the elevator car may be caused to automatically stop in proper alignment with predetermined floor levels by virtue of the actuation or setting of secondary control means, which may be provided within the car alone, or both within the car and at each floor level; said secondary control means being adapted to cooperate with the master control switch within the car, which master switch is subject to the manual control of the car operator."

Parker further points out in the following language that the principal object of his invention was to overcome difficulties long recognized, but never remedied. (Patent, p. 1, line 39)—

> "The invention has for its *principal object* to provide a novel *system* and *means* for *controlling* electric elevators of the general characters above mentioned, which is adapted *to eliminate the errors made by inexpert operators, who bring the car to a stop a few inches above or below the proper level, and to also prevent such operators failing to stop at a floor which a passenger has previously called for.*"

Parker solved this problem by providing means for so controlling the mechanism for the *starting* and normal running of the car that this had to be done *"entirely and singly"* through the operator manually throwing the car switch handle to "on" position in combination with means for *automatically stopping* the car through *secondary circuits,* in which push buttons, either in the car or at the landings, *initiate* a circuit to be completed by the selector mechanism, to stop the car, in proper sequence, at each of the landings for which buttons have been pressed.

In other words, once the car has been started by the car operator the running circuit is maintained closed, so that the car continues to run until automatically stopped by the action of the secondary circuits, initiated by pushing but-

tons either in the car or at the landings, in conjunction with the action of the selector mechanism.

Parker says of his *stopping control* mechanism (Patent, p. 1, lines 58-70) that—

> "This electrical mechanism becomes operative upon the simultaneous fulfillment of two conditions,
>
> (1) one condition being the closing of a manually actuated secondary switch, *under the control of the operator within the car* (the push buttons in the car) or, if desired, *under the control of a passenger on a floor level* at which the latter desires the car to stop so that he may enter the same (through pushing a button at any landing) and
>
> (2) the other condition being the *automatic closing* of another secondary switch in the same circuit, which momentarily occurs as the car reaches the desired floor level."

Parker thus provides, in his stopping mechanism, push buttons in the car, under the control of the attendant, and push buttons at each floor, under the control of waiting passengers, any one of which, upon being pushed, closes a switch to set up a circuit, in his stopping control, which is later automatically completed by a second switch controlled by a selector operating in synchronism with the movement of the car. The automatic completion of the secondary control circuit brings about the slowing down and stopping of the car.

In the stopping operation, Parker clearly contemplates the *timing* and *arrangement* of the automatic secondary circuit closing means in such a way (Patent, p. 5, lines 25-30)—

> "as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car, so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level."

This statement in the Parker patent, by which he clearly called attention to so *timing* and *arranging* his automatic secondary circuit closing means with relation to the usual

braking mechanism, so that "the car will come to rest in proper alignment with the floor level," plainly shows that Parker contemplated such an "arrangement" and "timing" of his secondary control circuit in combination with such braking mechanism as would overcome "the momentum of the car" and cause it to decelerate and finally stop "in proper alignment with the floor level."

At the time Parker filed his application on his "Control" he knew of slow-down or stopping mechanism for elevators which could be incorporated in his system, and that such mechanism was in existence in Otis elevators, and that by this mechanism cars could be brought exactly to the floor level, and he knew a system of relays could be installed which would bring about that result, and that in drawing his patent application he (R. 108, 109)

> "relied on apparatus I knew to be in existence."

Parker also makes it clear from his testimony where he says (R. 108) that by the momentary setting of the circuit through the "contacts on the floor selector" which "initiates the breaking of the power circuit," he did "not imply that the power is instantly shut off," or that this instantly stopped the car, but that it was contemplated to use his "Control" in connection with—

> "mechanism that brought them" (the cars) "exactly to the floor level,"

then in common use and with which he was familiar in the Otis elevators (R. 107, 108). His patent clearly contemplates the use of his "Control," in connection with any "of the usual braking mechanisms to overcome the momentum of the car" with which the "automatic secondary circuit" is so timed that the car is automatically brought to the exact floor level. (Patent p. 5, lines 23-30.)

For many years previous to the Parker invention, the art knew about, and the plaintiff used in its high speed

elevators, "automatic slow-downs entirely beyond the operator's control," which functioned to bring the car from full to slow speed as it approached a given stopping point. (See *Otis* v. *Kaestner & Hecht,* 234 Fed. 926, 931-933.)

It was quite unnecessary for Parker to illustrate and describe in his patent any slow-down and self-leveling mechanism as the law does that for him. This is well illustrated by what the Supreme Court said in *Loom Company* v. *Higgins,* 105 U. S. 580, speaking through Mr. Justice Bradley, at page 585, in holding the patent there involved valid and infringed:

> "If a mechanical engineer invents an improvement on any of the appendages of a steam-engine, such as the valve-gear, the condenser, the steam-chest, the walking beam, the parallel motion, or what not, he is not obliged, in order to make himself understood, to describe the engine, nor the particular appendage to which the improvement refers, nor its mode of connection with the principal machine. These are already familiar to others skilled in that kind of machinery. He may begin at the point where his invention begins, and describe what he has made that is new, and what it replaces of the old. *That which is common and well known is as if it were written out in the patent and delineated in the drawings.*"

PARKER "CONTROL" NOT LIMITED TO EXACT DISCLOSURE OF HIS PATENT.

The Parker "Control" is not limited for use in connection with any particular type of electric motor drive, or to any particular manual "car switch" controlled electric elevator mechanism, whether of the prior art, or otherwise. The character of car switch is likewise immaterial.

The real point is that Parker's "Control" is equally adaptable for use in connection with any of the previously well-known electric elevator equipment, and with various improvements thereon which have been made, and that it is

embodied in both the Otis "Signal Control" elevators and the defendants' structure, for (R. 199):

> "Signal control is not possible without a device such as the Parker patent."

Parker with simplicity and directness of statement, charistic of his entire testimony, eliminated all unnecessary description in his patent, and focused directly upon his "Control" for electric elevators, and clearly and sufficiently described it to show that it was adapted for use in electric elevators. Plaintiff's and defendants' use of it shows that it was readily understood and that the problem "once solved (by Parker) presented no difficulties." *Diabond Rubber Co.* v. *Consol. Tire Co.,* 220 U. S. 428, 435. (R. 523.)

That the patented "Control" and its operation was plainly understood by the Otis Elevator Company's engineers who applied it to their practice is conclusively shown by the testimony (R. 197, 198).

It was likewise understood by defendants' engineers (R. 498, 501) and by other witnesses (R. 522).

It is true that Parker, in conformity with the general practice of showing electrical inventions in patent applications illustrated—

> "the novel features and relations of the several mechanisms and electrical circuits * * * in *diagrammatic* form" (Patent, p. 1, line 76)

and made no attempt to show the exact character of electrical switches or the exact positioning of the various parts thereof.

He did not require the

> "use of any particular kind of pole-changing switch, but may employ any type which is commonly used or found desirable for electric elevator systems." (Patent, p. 2, lines, 80, *et seq.*)

His drawings and specifications made entirely clear to

elevator engineers, the general principles of the operation of his invention, the relationship of the operative parts, electrical and mechanical, to each other (R. 522).

He also fully understood that "various changes" would be necessary to adapt it to the various elevator installations theretofore in use or those to be thereafter constructed. He is remarkably clear in this where he says (Patent, p. 5, line 122):

> "The *principles* of this invention will be fully understood from the above description of the various devices and parts, together with their novel arrangement and interrelation, as well as from the manner of its operation as above described. I am aware, however, that *in practice various changes may be made in the detail construction of the various parts,* especially is this so with respect to the manually operable closing means for the secondary circuits," (*i. e.,* push buttons) "to the automatic closing means for said secondary circuits" (*i. e.,* the selector mechanism) "and to the detent means for the switch-arms 4 and 4'" (*i. e.,* the car switch control) "consequently it will be understood that all alterations or variations of such parts, which do not alter the general principles of operation of this invention, as a whole or as to subcombinations thereof, may be made without departing from the scope of this invention as expressed by and in the appended claims."

MR. PARKER FULLY EXPLAINED HIS INVENTION TO THE MASTER, BY WHOM IT IS ACCURATELY DEPICTED IN THE LATTER'S REPORT.

The inventor, Mr. Parker, was examined before the Master as a witness for the plaintiff, and while on the stand traced from enlargements of the patent drawings the circuits and mechanisms shown therein (see plaintiff's exhibit 14, R. Vol. 2, 141; also reproduced in Appendix as Plate I.) and pointed out what he sought to accomplish through the use of his "Control," in connection with any of the manual car switch control elevators and what had

been done as a result of his invention. His description of the construction and operation of the Parker patent is found in the record (R. 88-94). It is also described by one of plaintiff's engineers, Mr. Crabbe (R. 145-148).

That the Master clearly understood the Parker "Control" and its operation, testified to before him, is apparent from his very accurate analysis of it (R. 553-560).

The lower court confirms this when he says "The Master's report may be referred to for a more complete description of the Parker device." (R. 636)

The Master says R. 553-560:

"Beginning at line 16, page 1, of the patent, the patentee states":

> "This invenltion relates, generally, to a *system and means for controlling electric elevators;* and the invention has reference, more particularly, to a novel *system and means of control whereby the elevator car may be caused to automatically stop* in proper alignment with predetermined floor levels *by virtue of the actuation or setting up of secondard control means,* which may be provided with in the car alone, or both within the car and at each floor level; said secondary control means being adapted to cooperate with the master control switch within the car, which master switch is subject to the manual control of the car operator. Furthermore, this invention relates to *a system and means* for *controlling* electric elevator cars, whereby the *starting* of the car, either up or down in the shaft, is *entirely* and *singly within the manual control* of the car operator, but whereby the stopping of the car at predetermined points in its ascent or descent may be automatically attained if desired."

Going to the specific description of the construction and operation, the Master says (R. 553):

> "The patent drawing discloses in diagrammatic form an arrangement of circuits and circuit closing means in relation to an elevator car and its hoisting mechanism. The circuits can be followed on the patent drawing, preferably the enlarged copy, Exhibit 14,

on which the circuits have been traced with various crayon colors. (R. Vol. 2, 141; also Appendix to this brief, Plate I.) Plaintiff's Exhibit 7 in the bound book of exhibits gives the circuits separated from one another in a straight wiring diagram. (R. Vol. 2, 42.) The car is suspended by a cable that engages a hoisting drum, which is operated by an electric motor, 17. The motor 17 is operated by current which is supplied through, controlled and reversed by, a pole-changing switch. By reversing the flow of current the car can be made to move in either an up or down direction. Current flows from the source of current, wire 12, through wire 25 to the pole 23 of the pole-changing switch, contact 20, wire 27, through the motor 17, wire 28, contact 21, pole 24, wire 26, to the other side of line 13, to move the car in an upward direction. The current flows from wire 12, through wire 25′ to pole 23′, contact 21, wire 28, motor 17, wire 27, contact 20, pole 24′, wire 26′ to wire 13 to move the car in a downward direction. To close the pole-changing switch in either direction or interrupt the flow of current through it a switch, numbered 1, is located within the elevator car. A manually operated lever 8 can be moved to carry the switch arms 4 or 4′ to bridge the contacts 10 and 11 or 10′ and 11′. The unqualified numbers relate to the up currents and switches; the prime numbers to down circuits. Generally the description of an up circuit could without change be read on a down circuit. When contacts 10 and 11 are bridged by the operator's moving the manual switch two circuits are set up. One of these is from wire 12 through wire 14, contact 10, plate 9, on arm 4, contact 11, wire 15, through solenoid 16, to the other side of the line, wire 13. This circuit energizes the coil 16, closing the pole-changing switch at the gaps 24-21 and 23-20, which permit the current to flow to the motor, moving the car upward. The second circuit that is set up is through wire 14, contacts 10 and 11, by plate 9, through coil 32, wire 33, to wire 13. This is the circuit energizing the coil 32 which holds arm 4 in closed position. The lever 8 can be returned to its neutral position without breaking the circuit through the coil 16. The operator within the car has no further control over the car movement through the manual switch, as the arm is locked in circuit closing position.

For stopping the car another separate system of cir-

cuits and switches is provided. Likewise stopping circuits are separately provided for up and down movement. Forming a link in each circuit is the floor selector which is synchronized with the car movement. Upon the selector is switch plate S, carrying a series of contacts, f-2 and 2′, f-3 and 3′, f-4 and 4′, corresponding to the floors in both up and down directions. An arm 34 as it rotates will successively bridge the rings g or *g′* and contacts *f* or *f′*. The rings *g* and *g′* are connected to the other side of the line by wires 36 and 38, and 36′ and 38′ which pass through the coils 37 and 37′. In the car is a series of buttons, one up and one down button for each floor. On each floor are two buttons, one up and one down. The floor selector and the car and floor buttons are connected in the secondary or stopping circuits. In each stopping circuit there are circuit closing means manually operable, located in the car or at the floor landing and a secondary circuit closing means which is automatically closed by car movement. To complete a secondary circuit it must be closed at the selector and at either the floor button or the car button. Taking, for illustration, the second floor up-circuit,—it can be traced from the positive source wire 12, through the wire n-2 to contact j-2. The contact j-2 when actuated by the push button contacts with l-2, completing a circuit through the wire o-2, contact in the car p-2, arm c-2, wire h-2 to the contact on the selector plate f-2. When the car in its travel reaches a predetermined point on its upward travel the arm 34 bridges the contact f-2 and the ring g. This permits the current to flow from the contact f-2 to ring *g,* through wire 36 to coil 37, and wire 38 to wire 13, completing a circuit. The coil 37 being wound in opposition to coil 32, this neutralizes the action of coil 32, releasing the contact arm 4, and breaking the previously set up circuit through coil 16. This in turn breaks the circuit to the motor at the pole-changing switch, stopping the car. A second floor stopping circuit can be set up by pressing the car button a-2, which sets up a circuit from the wire 35, which is in connection with the positive source wire 12, through the contacts p-2 and d-2, wire h-2, to contact f-2. Thereafter the circuit is completed and current to the motor interrupted as explained above. The operation of stopping circuits for other floors can be fol-

lowed by using the same letters with the different numbered suffices, and the down circuits by using the prime characters. When a secondary or stopping circuit is completed the solenoid *e* corresponding to the floor is energized, resetting the switch in open position.

"In operation the car in charge of an operator receives passengers at the ground floor. As each passenger calls his floor the operator presses the corresponding car button for that floor, setting up on the selector a corresponding circuit. When ready to start he moves the lever on the manual switch to the up-starting position, which starts the car through the circuits to the pole-changing switch and the motor. He then returns the hand lever to neutral. When the car approaches one of the selected floors the movement of the selector completes the stopping circuit, bringing the car to a stop. The passenger leaves the car and the operator manually starts the car again by moving the hand lever to the up position. After the car starts he returns the lever to neutral and the car again stops when it reaches the next selected floor. If a passenger wishes to board the car at an intermediate floor he depresses the button at the floor landing. This sets up a circuit, as previously described, which when closed by the movement of the selector brings the car to a stop at the floor. After the passenger enters the car the operator again manually starts the car.

"Certain statements in the patent specifications are to be noted. Referring to the then known usages in the art, the patentee states:

> 'No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch within the car itself. It is intended to retain the positive features of manual control, but to add to such an electric mechanism which, upon being previously set, will interrupt the main driving or power circuit at predetermined points in the line of travel of the car. This electrical mechanism becomes operative upon the simultaneous fulfillment of two conditions, one condition being the closing of a manually actuated secondary switch, under the control of the operator within the car, or, if desired, under the control of a passenger on a floor level at which the latter desires the car to stop so

that he may enter the same, and the other condition being the automatic closing of another secondary switch in the same circuit, which momentarily occurs when the car reaches the desired floor level'. Page 1, lines 49, *et seq.*

'Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level.' Page 5, lines 23 *et seq.*

"The patent does not disclose means for slowing down, stopping, and braking the car. It appears that Parker intended to use some system of slowing down, stopping, and leveling then in use that could be adapted to his control means. He knew that such systems existed but did not know of their specific structure and operation. That Parker knew little of electric elevator practice is evident from the many defects to be found in his specifications. This does not detract from his standing as an inventor, provided that his specifications give sufficient information to the elevator engineer to enable him to embody the invention in a successful elevator."

And (R. 559):

"The evidence shows that at the time of the Parker disclosure the elevator art had advanced to such a degree that upon the manual operation of a car switch all further steps in deceleration and stopping a car level with the floor landing or returning it to the floor landing if stopped beyond the landing could be automatically accomplished."

And (R. 561):

"Nothing in the prior art shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing. To obtain this result Parker has taken from the prior art the usual starting circuits.

This is his circuit through contacts 9 and 10 and coil 16 which closes the pole-changing switch. Passing through the coil 32 he has added another circuit not found in the prior art. This circuit is set up by the bridging of the contacts 9 and 10 and it results in removing the control from the operator's manual switch. The idea of a self-holding switch was not new but the application of that principle here is novel. Thereafter he has provided secondary circuits which are independent of the starting and running circuits, which are closed by two sets of switches—first, at buttons in the car or at the landings and, second, at a selector which is synchronized with the car movement. These circuits run from one side of the line through floor and car buttons to the selector contacts, thence through the coil 37 to the other side of the line. The completion of one of these circuits energizes the coil 37 and cuts the running circuit at the pole-changing switch. While in actual practice the closing of a secondary circuit sets up a complicated sequence of decelerating and stopping circuits, nevertheless, the secondary circuits of Parker suggested an entirely novel means of initiating the stopping operation."

And (R. 562):

"Most important to consider is the general condition of the art at the time of Parker's application. By this time engineers knew how to build elevators, which were started by an operator in the car and were stopped by the operator's throwing of the manual switch into neutral either in response to a flash signal from a landing or at the request of a passenger. The opening of the manual switch set up an elaborate series of automatic operations which slowed down, stopped, leveled the car, and braked the mechanism. Practically all of these features are found in plaintiff's and defendants' present installations. Also available to the art were devices of the character of the Randall signal machine. (See patent of Smalley and Reiners, Exhibit X-11). These machines received signals from hall push buttons through the main signal panel and relayed the signals to the first car to approach the signalling floor in the direction indicated. The signal reached the car as a light flash. In response to the flash the operator manually operated the car switch to initiate the stopping of the car.

"In brief, the elevator art at the time of Parker's application had developed high speed elevators in which the starting and stopping were initiated by the operator's closing and opening a switch in the car in response to a signal from a hall button or the request of a passenger. Acceleration, deceleration, and leveling could be done automatically after the operator initiated the operation by his car switch. Selectors had been developed which would complete a circuit to stop the car. These were used in the so-called push-button elevators which the patent to Ihlder illustrates."

PARKER FULLY COMPLIED WITH REQUIREMENTS OF PATENT OFFICE. HIS PATENT CLEARLY DISCLOSED TO ENGINEERS SKILLED IN THE ELEVATOR ART IN DIAGRAMMATIC FORM, AN OPERATIVE DEVICE AND THE INVENTION DISCLOSED IN IT WAS FULLY UNDERSTOOD BY PLAINTIFF'S AND DEFENDANTS' ENGINEERS WHO UTILIZED IT.

That Parker complied fully with the requirements of the Patent Office in his diagrammatic disclosure is evidenced by the fact that that Office had no difficulty in thoroughly understanding it and granting both his original and reissue patents. Not only this, but the Otis Elevator Company's engineers had no difficulty in understanding the invention disclosed to them by Parker in January, 1922 (R. 96), which it later embodied in its "Signal Control" elevators (R. 144, 563, 564).

Neither did defendants' counsel, Mr. Lyon (R. 500, 501) have any difficulty in understanding it nor in explaining to Mr. Baruch, defendants' chief engineer, how the Parker invention was intended to operate. This is shown by the testimony.

Mr. Lyon had occasion to become thoroughly familiar with it between June 26 and July 13, 1925 (R. 497), and then explained it to Mr. Baruch (defendants' vice-president and chief engineer) (R. 498)—

"so that he was familiar with it at that time."

He testified (R. 498):

> "I knew how it worked and I explained the intended operation to him. I understood the intended operation myself plainly at that time."

Thus Mr. Baruch, vice-president and chief engineer of the defendant company, had full knowledge of the Parker patent and invention months before he gave Mr. DeCamp directions for designing defendants' automatic stopping control in October, 1925. Mr. Baruch had also seen the plaintiff's "Signal Control" elevator previously at the Standard Oil Building in New York. He had also been advised of the Reissue of the Parker Patent before defendants' elevators were put into operation (R. 127).

The diagrammatic showing of the Parker "Control" in his patent is a common way of disclosing electrical inventions. It embodies the generic principle and works to accomplish Parker's entirely novel concept and important functions. The courts have repeatedly and uniformly held that patents are addressed to skilled engineers in the particular art, and if these engineers can build and operate the device, to carry out the invention or concept of the patent in the manner indicated by the patentee or known to the art, then the patent is valid.

The Supreme Court in *Hildreth* v. *Mastoras,* 257 U. S. 27, at page 34, speaking through the late Chief Justice Taft, in discussing the disclosure there involved said:

> "The machine patented may be imperfect in its operation; but if it embodies the generic principle, and works, that is, if it actually and mechanically performs, though only in a crude way, the important function by which it makes the substantial change claimed for it in the art, it is enough. *Telephone Cases,* 126 U. S. 1, 535; *Mergenthaler Linotype Co.* v. *Press Publishing Co.,* 57 Fed. 502, 505."

See also:

Radio Corp. of Am. v. *Edmond & Co.,* 20 F. (2d) 929, 930.

Remington Cash Reg. Co. v. *National Cash Reg. Co.,* 6 F. (2d) 585, 618 (D. C. Conn.).

Engineer Co. v. *Hotel Astor,* 226 Fed. 779 (D. C. N. Y.).

A. B. Dick Co. v. *Barnett,* 288 Fed. 799, 800, 801 (C. C. A. 2).

Thayer & Chandler v. *Wold,* 142 Fed. 776 (C. C. Ill.).

Von Schmidt v. *Bowers,* 80 Fed. 121, 150 (C. C. A. 9).

Dalton Adding Mach. Co. v. *Rockford Milling Mach. Co.,* 253 Fed. 187 (D. C. Ill.).

American Stainless Steel Co. v. *Ludlum Steel Co.,* 290 Fed. 103 (C. C. A. 2).

Minerals Separation, Ltd. v. *Hyde,* 242 U. S. 261.

Mergenthaler Linotype Co. v. *Press Publishing Co.,* 57 Fed. 502, 506 (C. C. N. Y.).

PLAINTIFF UTILIZES PARKER'S INVENTION IN ITS "SIGNAL CONTROL" ELEVATORS.

Parker offered his invention to (R. 78)—

> "the Otis Elevator Company because they were the largest operators in the field, and for my purpose the most suitable to deal with."

When, in 1922, he submitted his application for patent to Mr. Lindquist, the Chief Engineer of that company, and gave him the specifications and drawings of his application as originally filed, (R. 76) Parker showed his full appreciation of the fact that his structure was adaptable for use in connection with plaintiff's elevators.

After Parker had submitted the drawings and specifications of his application as filed to the Otis Elevator Com-

pany, and before plaintiff purchased his patent, the Otis Elevator Company thoroughly tried out the Parker invention in connection with its electrically operated mechanisms for slowing down and self-leveling elevators at the Standard Oil Building in New York in 1924 (R. 141-145). The success of this installation was responsible for the purchase of the patent and the very extensive subsequent use of installations utilizing it.

Otis "Signal Control" elevators had in them the then best known means for automatically slowing down and automatically self-leveling the *manually controlled cars* being sold by it prior to its purchase of his patent in 1925 (R. 256). Plaintiff had also used "automatic slow-down mechanisms" in its elevators for years prior to the Parker invention. In fact these had been described in the Federal Reporter in June, 1916. (See *Otis* v. *Kaestner & Hecht,* 234 Fed. 926, 931-933.)

Parker's "Control" for electric elevators was in use, in plaintiff's elevators, long before defendants made their infringing elevators. It was described in the Scientific American of October, 1925 (R. Vol. 2, 54, 55). It was seen by defendants' Chief Engineer, Mr. Baruch, at the Standard Oil Building in New York and he understood its operation (R. 129), which he described to his subordinate engineer Mr. De Camp in 1925, before the latter designed the defendants' installation (R. 404). Mr. Baruch said to Mr. De Camp that he—

> "wanted the car to stop automatically from the car and hall buttons by means of push buttons, and that on account of having to use the manual control it would be necessary to use a manually controlled switch in the car. He wanted the car to be started only from within the car and to have the car stop automatically from either the floor landing or from within the car."

The Master correctly found (R. 565);

> "In commercializing their "signal control" elevators

> the plaintiff has met with success. This success is due in a large measure to those features that resulted from Parker's disclosure. Parker's automatic control has eliminated the difficulties which resulted from human error such as operator's forgetting floor stops and passing waiting passengers."

The name "Signal Control" elevator given it by the Otis Elevator Company to designate this particular type of "Control" indicates the character of the Parker invention. The record shows that (R. 53)—

> "A signal control elevator is one in which the *starting* movement *is initiated by an attendant in the car* and the stopping is controlled automatically through means of buttons placed in the car and on the various landings."

Plaintiff's engineers define the Otis "Signal Control" elevator as (R. 141-2)—

> "one in which the car *is started* either in the up or down direction *by means of a car switch* controlled by an operator in the car, and *controlled by this person alone.* The *stopping is entirely automatic* and is initiated either by the operator from buttons in the car or from buttons located at the landing. Once the stopping circuit has been initiated the automatic *stopping of the elevator itself is entirely without the control of* either *the operator* or the passenger that may have pressed the landing button."

The record shows that while officials of the plaintiff company were generally familiar with the various elevators that were being installed for the last thirty years, one of them (Mr. Raymond W. Charles, of San Francisco, Vice-President of plaintiff), testified that (R. 60)—

> "Previous to the date of the Parker invention I did not know of any devices having been made or sold or installed that would accomplish the results of the Parker device. I did not know of any elevator *previous to the Parker invention or signal control device in* 1921 *in which the elevator could be started only by the operator in the car and automatically stopped at every floor by either pushing a button within the car or by pressing a button at the landing.*"

The record will be examined in vain to find any prior structure which will accomplish this result.

An incident of the Parker "Control" is that it could be used in connection with elevator mechanism theretofore known, as well as in connection with various improvements since made, with equal facility (Parker Patent p. 5, line 22, R. 108, 147, 194, 199, 523.)

PARKER INVENTION EXTENSIVELY USED IN OTIS "SIGNAL CONTROL" ELEVATORS. THIS WAS SO FOUND BY THE MASTER.

The Master also shows from the testimony (R. 51-61, 141-145, 147) and his thorough knowledge of it as used by plaintiff that the Parker invention is successfully used in the now well-known Otis "Signal Control" elevator (R. 563-565). He says:

> "The evidence establishes that the patentee, Parker, after making his application for Letters Patent submitted his application to the Otis Elevator Company. Thereafter, the Otis Elevator Company installed their so-called "Signal control' elevators in the Standard Oil Building in New York and purchased the Parker patent for a small sum. Since that time the plaintiff has made a number of installations of this type of elevator, particularly in high office buildings where speed and accuracy of operation are most desired. One of these installations was in the Pacific Telephone and Telegraph Building in San Francisco. A wiring diagram of this installation is in evidence as defendants' Exhibit DD.* Plate V (plaintiff's Brief) is a straight line diagram of the important circuits.** Particularly to be noted is that when the car is started from the manual car switch contact SS, setting up a circuit through director switch B, contact 2-U, and relays N, U, and V, relay N simultaneously sets up another circuit through the direction switch B. Thereafter the running circuits are maintained by this circuit inde-

* Offered in Evidence, R. 512.

** Plate V here referred to is also reproduced in the Appendix as Plate V.

pendent of the car switch, which can be returned to neutral. The car stops when circuits set up through either a car button or hall button are completed by the selector, shorting out coils of relays U or V, which permits the pawl magnet to initiate a slowing down, stopping, and leveling sequence. This brings the car to a stop, during which operation the coil B on the direction switch is de-energized, breaking the running circuit.

"In this structure is found

(1) a circuit controlled by a car switch to start the car,

(2) a holding circuit which maintains the running circuits independent of the car switch, and

(3) secondary circuits with manual circuit closing means located in the car or at the landing and automatic circuit closing means on a selector, for interrupting the running circuit and stopping the car.

As will later appear, these are the elements of the Parker invention. The conclusion is reached that as a part of the Pacific Telephone and Telegraph Company installation the Plaintiff followed the teachings of Parker's disclosure.

In commercializing their 'signal control' elevators the plaintiff has met with success. This success is due, in large measure to those features that resulted from Parker's disclosure.

Parker's automatic control has eliminated the difficulties which resulted from human error such as operator's forgetting floor stops and passing waiting passengers. It also permits the use of less skilled operators and relieves the operator of the greater part of his former responsibility. Many advantages claimed for the elevators by the plaintiff are not due to Parker's teachings but rather to automatic decelerating and self-leveling. For example, the elimination of stops above or below the landing cannot be attributed to Parker who goes no further than to say that he contemplates the use of the usual braking mechanism.

Parker's disclosure, divided into its elements, shows in combination:

(1) An old form of starting circuit control through a car switch;

(2) A novel means of holding that circuit closed independent of the car switch, and

(3) A novel means of stopping the car by releasing the holding means through secondary circuits closed by manual operation of a switch either in the car or at the landing and by the automatic closing of a switch by car movement."

It is unimportant that the plaintiff, in using the Parker "Control" in its commercial elevators, did not follow the *particular* arrangement shown diagrammatically in Parker's drawings for it is fundamental that it is unnecessary to follow the particular form shown in the patent drawings when reproducing it for commercial purposes. It is seldom if ever done. As well said by the Court of Appeals for the Sixth Circuit in *Sandusky* v. *De Lavaud,* 274 Fed. 607, speaking through Circuit Judge Denison at page 609:

> "it is not important whether plaintiff's successful operation was with a machine of the precise form shown in the drawing or was with a machine embodying obvious modifications."

See, also, *Royer* v. *Coupe,* 29 Fed. 358; *Wold* v. *Thayer,* 148 Fed. 227; *Pullman Co.* v. *Wagner Co.,* 38 Fed. 416; Robinson on Patents, Sec. 543, Vol. II; Walker on Patents, Sec. 126, Vol. I.

The importance of the Parker invention is not only demonstrated by its success and the increasing demand for it by the trade, but by the contest being here waged by the Llewellyn Iron Works (notwithstanding its claim to have installed only four elevators against which the charge of infringement is directed), with the cooperation or assistance of the powerful Westinghouse Company, who furnished part of the electrical equipment for defendants' infringing installation (R. 127).

> *Barry* v. *Harpoon Castor Mfg. Co.,* 209 Fed. 207, at 209 (C. C. A. 2).

Rajah Auto Supply Co. v. *Grossman Co.,* 188 Fed. 73, 74 (C. C. A. 2).
Roth v. *Harris,* 168 Fed. 279, 283 (C. C. A. 2).
Hildreth v. *Mastoras,* 257 U. S. 27, 32.

DEFENDANTS HAVE FROM THE OUTSET ATTEMPTED TO COMPLICATE AND CONCEAL THE ISSUE.

In their voluminous briefs, covering approximately six hundred pages, filed in the lower court in support of defendants' one hundred and twenty-five (125) exceptions to the Master's report (R. 561-619), defendants' counsel stressed the details of the numerous electrical circuits and mechanisms of their elevators. Most of these are present in all high speed elevators, whether using Parker's invention or not. Defendants' counsel, in doing this, obscured the Parker "Control" which completely dominates the operations of these electrical circuits and mechanisms and thereby accomplishes the objects of Parker.

Defendants' counsel thus needlessly imposed upon the lower court, such a mass of details, that it is not surprising that in his attempt to understand this (R. 644)—

> "complicated picture by close and arduous study, more study in fact than I have found necessary to devote to any case presented during my experience on the bench"

he became confused, even to the extent of misunderstanding the Parker invention and its operation and treats it as though with the Parker "Control" an elevator *could be started by* the operation of *push buttons* either *"at the floors* or *in the car"* (R. 638, 639). It so confused the lower court that he failed to see that if the elevator was *started* from the push buttons "at the floors" it would entirely defeat the purpose for which the Parker invention was intended. The Parker patent makes it entirely plain that with his control "the *starting* of the car, either up or

down in the shaft, is *entirely* and *singly* within the manual control of the car operator."

The confusion injected into the case by defendants, picturing the highly complicated accelerating, decelerating, leveling, door opening and closing, and other mechanisms used by defendants in connection with the Parker invention, seemed to greatly impress the lower court. In this connection the Court stated (R. 643):

> "Wonderful ingenuity is displayed in the highly complicated slow-down and floor selector machines used by the defendants."

whereas there was little new in any of these mechanisms over that of previous Otis elevator practice.

The lower court failed to appreciate what the Master grasped (R. 563), from the examination of the witnesses who appeared before him,

> (a) that highly complicated slow-down, leveling and braking mechanisms had before been used in connection with elevators in which the starting and *stopping* was under the control of the operator's car switch, and
>
> (b) that these were used in both the Otis "Signal Control" elevators at the Standard Oil Building in New York and at the Pacific Telephone & Telegraph office building in San Francisco, in combination with the Parker invention, long before the defendants completed, or even started to work on their infringing installation.

The lower court also failed to understand that the Otis "Signal Control" elevators, in use before defendants copied them, used the Parker "Control" and—

> "includes an elevator system comprising an elevator car, a plurality of landings, and at least one intermediate landing, means for bringing the elevator car from rest to full speed, means for automatically initiating slowing down of the elevator car as it approaches any selected one of said landings, and automatic means for rendering said initiating means effective at different distances from the selected landing."

The Master very properly says (R. 563) that "practically all of these features are found in plaintiff's and defendants' installations." The Master specifically calls attention to the fact that the "highly complicated" mechanisms to which the lower court refers were used, *in combination with the Parker automatic control,* in the Otis "Signal Control" installation at the Pacific Telephone & Telegraph Building in San Francisco before defendants appropriated it. This finding is nowhere disputed in the evidence. A wiring diagram of this is in evidence as defendants' Exhibit DD (R. 563-565). *For simplified wiring diagram of this* see Appendix Plate V.

The outstanding new thing which defendants used in their elevators was the Parker "Control" which so dominated the rest of the mechanism as to make its "Automatic Stopping Control" possible. This was copied from Otis "Signal Control" elevators. It also utilized much of plaintiff's previous mechanism and controls in its elevators.

Defendants obscure the "Control" which dominates the starting, running, and stopping of its elevators, common to it and the Parker patent, and try to make it appear that the Parker invention was not present in defendants' structure contrary to the facts shown by the testimony and the findings of the Master.

It is not material whether the rest of the elevator operating mechanism is new or old but it is important that this mechanism is so harnessed by the Parker "Control" as to secure the results of his concept.

DEFENDANTS' ELEVATORS UTILIZE THE PARKER CONTROL.

THE "AUTOMATIC STOPPING CONTROL" OF THEIR ELEVATORS ADMITTEDLY OPERATES IN THE SAME WAY TO GET THE SAME RESULTS.

The Vice-President of the defendant company and its Chief Engineer, Mr. Baruch, admits that "he had followed the business very closely" and that defendants claimed for their elevators, here charged to infringe, that (R. 133)—

> "This so-called automatic stopping control or signal control elevator of the Llewellyn Iron Works accomplishes the same results as the Otis signal control elevator";

and that plaintiff and defendants are the only ones who have sold any of the these elevators West of the Rockies. He also testified that in defendants' structure (R. 131)—

> "You had the starting of the elevator by an operator in the car and the stopping automatically at the landing and from the car when it is initiated by push buttons at either place."

He more fully points out the operation which is common to the Parker patent, to plaintiff's installations, made under it, and to defendants' installation, by stating (R. 133):

> "the *starting* of the elevators in the Pacific Finance Building are controlled *entirely* by the operator within the car;"

that, in defendants' installation, when a person enters the car and calls a floor and a button is pushed corresponding to that floor and the car started (R. 133-4):

> "the car automatically stops at the floor which is indicated without having the operator do anything else, and when any passenger at any landing pushes either the up or down button the car is automatically stopped without the operator in the car having to do anything.
>
> "Neither the passenger outside the elevator nor the operator in the car can start the car except the operator within the car may use the master switch for starting it in the Pacific Finance Building. There is a

series of floor buttons corresponding to each floor in the car within the easy reach of the car attendant in the Pacific Finance Building.

"There is one push button for each floor. The pushing of the push buttons in the car or the push buttons at the landings for stopping the car have nothing whatever to do with the starting of the car.

"When a button is pushed in the car in the Pacific Finance installation and one is pushed for the same floor from the landing, the car will stop at that landing regardless of the fact that both buttons have been pushed. After * * * the car has been automatically stopped at the given landing, and the door has been closed, all that the operator has to do is to throw the master switch to *on* position to start the car.

"In the ordinary course of operation in the Pacific elevator construction, the *starting* of the car *is done entirely* by the *operator* and the stopping is done either by the operator pushing a button in the car or the passenger pushing one at the landing."

That the Parker operation takes place in defendants' structure is also clearly apparent from the testimony of the defendants' Electrical Engineer, Ray E. DeCamp, who, on cross-examination says (R. 397):

"In the Pacific Finance installation, completed in May, 1926, a car is started by the operator pulling a switch to the up direction.

* * * * *

"When you throw the switch over you complete the circuit which causes the elevator motor to be driven in the up direction.

* * * * *

"The pushing of a button in the car or the pushing of a button at a landing causes the car ultimately, through the various chain of mechanism and wiring that I have described, to automatically stop at any given landing."

DEFENDANTS' "AUTOMATIC STOPPING CONTROL" ELEVATOR INSTALLATION AT THE PACIFIC FINANCE BUILDING IN LOS ANGELES CLEARLY UTILIZES THE PARKER "CONTROL." THE PARKER "CONTROL" DOMINATES THAT INSTALLATION.

This Court can be relieved of unnecessary burdens in attempting to follow through the maze of the large number of wiring diagrams used by defendants' engineers in installing its Pacific Finance elevators by using the Master's description of it.

The propriety of this cannot be questioned, as the lower court has "let it be understood that the Master's report properly described the operation of defendants' system" (R. 642).

The Master, with assistance of the witnesses who appeared before him, and from his examination of defendants' "Automatic Stopping Control" elevators, has been able, in a simple and accurate way, to separate, from the very complicated wiring diagram of defendants' installation, the Parker primary and secondary control circuits, used in defendants' installation. He finds that the Parker "Control" so dominates the rest of defendants' elevator operating and driving mechanism that the cars can be *started only* by the operator manually throwing the car switch to "on" position, and are stopped in response to buttons pushed either in the car or at any of the various floor landings, and the car thereby brought to rest, at the desired floors, in proper sequence.

It is entirely unnecessary to go into the various ramifications and details of additional electrical relays, used in defendants' installation in connection with the "accelerating, decelerating or leveling the car" (R. 582). It is likewise needless to discuss other minutia having to do with the opening and closing of the doors, as defendants did in their approximately six hundred page briefs filed with the lower court. Such discussion only leads to confusion.

When these unnecessary and multitudinous details of wirings and other minute details have been laid aside, as the Master has done in his brief description, defendants' "Control" for Electric Elevators, with its primary and secondary circuits for dominating the operation of these elevators, through controlling the rest of the mechanism in the manner taught by Parker, stand out in bold relief and are easily followed and readily understood.

MASTER'S SIMPLE AND ACCURATE DESCRIPTION OF DEFENDANTS' INFRINGING CONTROL FOR THEIR ELECTRIC ELEVATORS.

The Master uses as a basis for his description of defendants' installation plaintiff's Exhibits 4-I to 4-X, 5 and 6 (R. Vol. 2, 30-41), which are wiring diagrams used by defendants' engineers in installing their elevators, and defendants' Exhibits O-1, O-2, O-3 and O-4 (R. Vol. 3, 189-192) which are copies respectively of plaintiff's exhibits 4-I to 4-IV, inclusive, except that blue ink symbols were added to permit of cross reference to photographs, defendants' Exhibits I-1 to 9.

The Master points out so much of defendants' installation as is necessary for the determination of infringement here as follows (R. 574-580):

> "*The Pacific Finance Building Installation* consists of four cars with an approximate speed of 600 feet per minute. When operated *en banc* the cars are manually started by an operator and automatically slowed down, stopped, and leveled at floor levels previously determined by the manual operation of the push buttons on the landings or in the car. The cars are hoisted and lowered by motors located in a penthouse above the shafts. The controls located in the car are a manually operated starting switch with separate up and down contacts and a series of push buttons, one for each floor (see defendants' Exhibits I-8 and I-9, R. Vol. 3, 186, 187). At each floor are two push button contacts, one up and one

down. In the penthouse above the motors is a series of drums, operated in synchronism with the movement of the car by the rope on the drum, 1 (Exhibit I-2, R. Vol. 3, 180). Looking at the photograph (Exhibit I-2, R. Vol. 3, 180), on the extreme right is the primary slow down drum carrying cam operated switches, which initiate the stopping of the car. Next to this is the secondary slow down drum carrying switches, the successive operation of which further slows the car's speed and finally transfers the control to the levelling drum 4. Drum, 4, carries the switches, the operation of which finally brings the car to a stop level with the floor and sets the brake.

"The installation includes a hall signal panel (Exhibit I-5, R. Vol. 3, 183) and Randall signal machines (Exhibit I-4, R. Vol. 3, 182), one for each elevator. The hall signal panel receives signals from the hall push buttons and transfers them to the Randall machines. Each Randall machine is synchronized with the movement of the elevator.

"The installation includes several hundred circuits with a multiplicity of circuit closing and breaking means, safety devices, and interlocks. The photographs (defendants' Exhibit 'I,' 1 to 9, inclusive, R. Vol. 3, 179-187) accurately show the external appearance of the driving and control means. Plaintiff's Exhibits 4-I and 4-X (R. Vol. 2, 30-39) are photostatic copies of the wiring diagrams used by defendants' engineers in installing the elevators. * * * In tracing circuits it is much easier to use defendants' Exhibits O-1, O-2, O-3 and O-4 (R. Vol. 3, 189-192). These are straight line diagrams in which coils and contacts are separated and shown in their relation to the circuits rather than in their physical relationship to each other. The blue ink symbols have been added to the diagrams to permit cross reference to the photographs, Exhibits 'I,' 1 to 9 (R. Vol. 3, 179-187). In following the circuits on the diagrams occasional reference to the photographs will assist in interpreting the symbols found on the diagrams. It is only with the assistance of expert engineers that the lay mind can reach an understanding of the simpler diagrams. Plaintiff's Exhibit 4-X (R. Vol. 2, 139) illustrates the extreme complexity of the whole structure.

"The full operation of the cars involves the manual closing of several switches: (1) The door closing

switch, (2) the car starting switch in the car, and (3) the car stopping switch at the landing and in the car.

"The closing of the doors preparatory to starting the car is accomplished by the operator closing the latch switch in the car, which energizes the relay 41 (Exhibit O-3, R. Vol. 3, 191) and in turn the magnet which permits the compressed air mechanism to close the door. After the operator closes the door he throws the car switch to the up position which closes the gap between the up contacts on the car switch, thus energizing relays 46 and 45. Relay 46 energizes the contactor 27 which closes the up direction circuit contacts 1 and 3. Relay 46 also energizes the brake releasing contactor 29 and relay 49. Relay 49 by its normally opened contact U-T-1, sets up a circuit through the coils of relays 46 and 45, which hold them in circuit closing position after the manual switch is returned to neutral, breaking the circuit through D-U and I-U. This can be seen in Exhibit O-3 (R. Vol. 3, 191). In section 1-E of the drawing are the manual switch contacts. In section F-1 is the contact U-T-1 (Relay 49), both of which are in the circuit with coil of relay 46. When the circuit through the wire 1-U is broken the holding circuit then runs through contact 3, line~~s 1-S and~~ *D-U-F, contact U-T-1, coil of relay ~~45~~, *(46) line N-1, coil of relay 45, line N, normally closed contact C-R-1 to L-L-2 (Section F of the Exhibit 0-3).

"Resistance is inserted which is cut out at successive stages by switches on the governor and relays 16, 18 and 30 to give a smooth start. Relay 45 when energized closes contact ~~N~~ *(M) on the main switch 48, which connects the armatures of the generator to the armature of the motor. Driving power is furnished through a Ward Leonard generator and motor set. It is needless to examine this further than to observe that a motor and generator are arranged so that by varying the strength of the generator field the amount of power delivered to the motor is varied and the speed of the elevator controlled. Defendants' Exhibit N. (R. Vol. 3, 188), Fig. 10-A, shows the power circuits, with the contacts, which are used in starting and stopping the car. The important contacts are contact M on switch 48 contacts 1 and 3 and 2 and 4 on contactors 27 and 28.

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* We have made the changes indicated above by * to correct errors obvious from the context and exhibits.

To the right of the page is shown the resistance controlled by contacts on relays 16, 18, 30, 6, 7, 8, 9, 10, 11, 12, 13, 14 and the governor switches. Fig. 10-B shows the brake circuits controlled by contacts 1-B and ~~3~~ *(2)B on relay 29.

"Contact M is closed when contactor ~~47~~ *(8) is energized by the closing of the circuit through its coil by relay 45. When all resistance has been cut out the car will be driven upward at full speed and the operator will have returned the operating handle to neutral. The operator is unable to stop the car by the use of the manual switch. When moving upward the contacts 1 and 3 on the contactor 27 and contact M on contactor 48 are closed; contact U-T-2 on relay 49 has energized switches 3-E and 3-O (See Sections 1-C Exhibit O-4, R. Vol. 3, 192).

"The car can only be stopped by circuits which pass through the hall or car stopping buttons. If a car button is depressed it sets up a circuit to one of the 2-U switches on the primary slow down drum. When the car approaches the floor a cam on the drum closes the switch 2-U and sets up a circuit through the coil of either the odd or even stopping circuit establishing relays ~~4~~ *(H)-E or ~~4~~ *(N)-O (numbered 4 and 5), which in turn close either relays O or E, which are self-holding. At the same time a small amount of resistance is thrown into the main motor circuit. Thereafter the movement of the car transmitted through the secondary drum closes either the 3-E or 3-O switches operating in sequence the relays 6, 7, and 8, which in turn are followed by timed relays, 9, 10, and 11, to cut in successive stages resistance into the motor circuit and bring the car to a slow speed. The second 3-O switch, 3-O-2, energizes the coils of the switches 4-M-S on the leveling drum. The ~~first~~ *(last) of these switches to ride off the cam on the drum cuts the motor circuit at the 1 and 3 contacts of the direction switch 27 and sets the brake. The car is then about three-quarters of an inch from the landing and it normally stops approximately at the landing. If the car rides past the landing one of the 4-M-S switches on the leveling drum sets up a circuit to bring it back to the landing. Since the car was started, circuit establishing relay 45 has been held closed, contact U-T-1 on relay ~~40~~ *(9) in turn keeping contacts 1 and 3

* We have made the changes indicated above by * to correct errors obvious from the context and exhibits.

on contactor 27 closed. At the time the 4-M-S switches are energized by the back contact on relay 10 a circuit is set up which holds the direction contactor 27 independent of the circuit set on starting. This first holding circuit is broken when the last 4-M-S switch rides off the cam. When relay 10 closes, the magnets of the switches on the leveling drum are energized and later relay 44 transfers control to these switches. The further movement of the leveling drum ~~closes~~ *(opens) the switches which breaks the circuits and stops the car. Two or three seconds after the car has stopped, the switch connection M between the generator and the motor falls out. During the stopping operation the doors are automatically opened by a relay in series with one of the stopping circuits. Stopping from the hall buttons is a more complicated operation. The circuit set up when a hall button is depressed is relayed to the first car to approach the landing in the desired direction. In order to accomplish this the hall button circuit closes a self-holding relay on the main signal panel, which in turn energizes a corresponding contact on each Randall signal machine. Thus a circuit is set up to each elevator. As the contactor on the Randall machine moves in synchronism with the elevator car the first car to approach the landing completes the circuit through the Randall machine and the relay P-L-1. Relay P-L-1 completes through its contact P-L-3 a circuit to the contact 2-U-2 on a primary drum switch. When the drum movement closes the 2-U switch a circuit is completed to either the odd or even, establishing relays H-E or H-O. From this point on the stopping operation is the same as in the case of a car button stop. When the door is closed preparatory to again starting the car the relay in the signal panel is reset to open position. If another car comes within the signal range for that floor before the door of the first car is closed the second car also will be stopped. Separate odd and even stopping circuits are provided due to the fact that the decelerating range is in excess of the distance between floors. Down operation is the same as up operation using separate circuits, with the exception of three stages of resistance used in both up and down stopping. The complete installation includes many hall signal, car annunciator, emergency

stop, and safety device circuits, the consideration of which would not be pertinent."

From the Master's brief description of defendants' installation and his conclusions with respect thereto (R. 584-586), it will be seen that the complicated mechanism of defendants' structure is so *dominated* and *controlled* by the Parker invention that the car must be *started "entirely* and *singly"* by the car switch operable "*only* from within the car" and that the pressing of push buttons in the car or at any landing causes electrical means to be set into operation which brings about the *automatic* slowing down and stopping of the car at the desired floor level, as Parker clearly contemplated should be done (Patent, p. 5, lines 23-30), and that this is accomplished through the use of the Parker invention.

It will also be seen that the defendants' elevators which are dominated by the Parker "Control" correspond closely to the Otis "Signal Control," which defendants' engineers had previously seen.

The defendants' elevators are controlled by the Parker invention and utilize his combination of

(a) an electrical circuit controlled only by a car switch to start and run the car;

(b) a holding circuit set up by the operation of the car switch which maintains running circuits independent of the car switch, so that the operating handle of the car switch may be returned to "off" position after the car is started without stopping the car; and

(c) secondary circuits provided with manual closing means (push buttons) located in the car and at each landing and automatic circuit closing means synchronized with the movement of the car for initiating the slowing down and stopping of the car at the desired landings.

The Master very properly says (R. 567):

"Inasmuch as the means which Parker discloses for holding the running circuits closed independent of the

manual switch and the means for releasing the running circuit to stop the car automatically has no antecedent in the elevator art, the patent is entitled to a range of equivalents that will cover any other means which accomplished the same result in substantially the same way."

Winans v. *Denmead,* 15 How. 330.

Kings County, etc. v. *U. S. Cons. etc.* 182 Fed. 59 (C. C. A. 9).

"The novelty found in the Parker combination does not depend upon the particular point where the braking means are located but rather in the inter-relation of running and stopping circuits with circuit closing and braking means to accomplish the stopping of the car."

(R. 581-582):

"The defendants used in their installation a highly developed means of automatically accelerating, decelerating, and leveling the elevator car. This does not constitute a difference between the structures of the patent and the defendants' structure, in that Parker specified no means of accelerating, decelerating, or leveling the car but relies upon the art to supply some appropriate means. As previously observed, the art could at the time of his disclosure, supply such means. That the defendants used a system which may possess great merit or invention over previous system is immaterial. In *Stebler* v. *Riverside,* 205 Fed. 735, the Circuit Court of Appeals for this Circuit held that any further invention in the infringing structure is immaterial if the defendants have also used the invention of the patent in suit.

It is reasonable to assume from the patent that the stopping should initiate sufficiently in advance of the landing to permit the timely operation of the decelerating and stopping mechanism. The patentee so stated (page 5, lines 23 to 30)."

(R. 583):

"Parker teaches the use of automatic stopping circuits to initiate the stopping of the car. He depends upon the art to supply the mechanism necessary to complete the stopping operation."

DECISIONS CLEARLY SUPPORT MASTER'S LIBERAL INTERPRETATION OF THE PARKER CLAIMS. WHETHER MORE OR LESS COMPLICATED MECHANISM IS DOMINATED BY THE PARKER "CONTROL" IS IMMATERIAL.

Assume for the purposes of argument that defendants have incorporated complicated arrangements and devices in their elevators (whether previously known or not). This gives them no license to utilize Parker's pioneer "Control". Neither is it an answer to the charge of infringement that in seizing the Parker concept they did not literally follow the particular circuits and arrangements of parts diagrammatically shown by Parker to illustrate his invention. When defendants appropriated Parker's "Control" and so utilized it in their elevators as to accomplish its identical results, they infringed, regardless of their deviations from the diagrammatic showing of the Parker patent.

Morley Machine Co. v. *Lancaster,* 129 U. S. 263, 273.

Paper Bag Patent Case, 210 U. S. 405.

Hildreth v. *Mastoras,* 257 U. S. 27.

Stebler v. *Riverside Heights Orange Growers' Assn.* (C. C. A. 9) 205 Fed. 735.

Angelus Sanitary Can Mach. Co. v. *Wilson,* 7 F. (2d) 314 (C. C. A. 9).

Butler v. *Burch,* 23 F. (2d) 15, 27 (C. C. A. 9).

In the latter case this court said (p. 27):

> " 'Where a combination patent marks a distinct advance in the art to which it relates, as does the appellant's invention here, the term "mechanical equivalent" should have a reasonably broad and generous interpretation, and protection against the use of mechanical equivalents in a combination patent is governed by the same rules as patents for other inventions. *Imhaeuser* v. *Buerk,* 101 U. S. 647, 25 L. Ed. 945. The fact, if it be a fact, that the infringing machine is superior, more useful, and more acceptable to the public than that of the appellant, does not avoid

infringement, so long as the essential features of the appellant's patented machine are used, unless its superiority is due to a difference in function or mode of operation or some essential change in character. *Morley Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 S. Ct. 299, 32 L. Ed. 715; *Hoyt* v. *Horne,* 145 U. S. 302, 12 S. Ct. 922, 36 L. Ed. 713; *Lourie Implement Co.* v. *Lenhart,* 130 F. 122, 64 C. C. A. 456; *Diamond Match Co.* v. *Ruby Match Co.* (C. C.) 127 F. 341; *Whitely* v. *Fadner* (C. C.) 73 F. 486.' *Smith Cannery Machines Co.* v. *Seattle-Astoria I. W.* (C. C. A.) 261 F. 85, 88.

" 'Defendants therefore cannot escape infringement by adding to or taking from the patented device by changing its form, or even by making it somewhat more or less efficient, while they retain its principle and mode of operation and attain its results by the use of the same or equivalent mechanical means. *Lourie* v. *Lenhart,* 130 F. 122, 64 C. C. A. 456; (*Leston*) *Letson* v. *Alaska Packers' Association,* 130 F. 129, 64 C. C. A. 463; *Eck* v. *Kutz* (C. C.) 132 F. 758. By varying the encircling means, but producing the same results in substantially the same manner, there is infringement. Both physical and mechanical encircling, with centering, are found in defendants' machine. *Union Paper Bag Machine Co.* v. *Murphy,* 97 U. S. 120, 24 L. Ed. 935; *Kinloch Telephone Co.* v. *Western Electric Co.,* 113 F. 659, 51 C. C. A. (369) 362; *Auto Pneumatic Action Co.* v. *Kindler & Collins* (C. C. A.) 247 F. 323, *supra; Pangborn Corporation* v. *Sly Mfg. Co.* (C. C. A.) 284 F. 217.' *Angelus Sanitary Can Mach. Co.* v. *Wilson* (C. C. A.) 7 F. (2d) 314, 318."

Defendants' theory below that it had escaped infringement because it divided up and rearranged parts of the particular circuits shown in the Parker patent (which illustrated his inventive pioneer concept) is well answered by this Court in *Kings County Raisin & Fruit Co.* v. *U. S. Consolidated Seeded Raisin Co.,* 182 Fed. 59, at page 63, where the court said:

"In any view, the Pettit machine being the first successful machine to accomplish a new result, the claims of the patent are clearly entitled to a broad and liberal construction, and to the benefit of the doctrine of

> equivalents. Pettit was not only the first to invent a built-up impaling cylinder, but he was the first to invent and construct a raisin seeding machine embodying the principle upon which all such machines must necessarily operate. Infringement is not avoided by the fact that one of the integral elements of his built-up impaling roll is by the appellants separated into two or more distinct parts, so long as the function and operation remain substantially the same. *Kalamazoo Ry. Supply Co.* v. *Duff Mfg. Co.*, 113 Fed. 264, 51 C. C. A. 221; *Bundy Mfg. Co.* v. *Detroit Time-Register Co.*, 94 Fed. 524, 36 C. C. A. 375; *H. F. Brammer Mfg. Co.* v. *Witte Hardware Co.*, 159 Fed. 726, 86 C. C. A. 202."

It may be, as the lower court said (R. 643) that "wonderful ingenuity is displayed in the highly complicated slow-down and floor selector mechanisms used by the defendants" (although this was largely copied from plaintiff's previous elevators) but this is no excuse for defendants' infringement. Certainly the defendants should not be given a free license to use the Parker concept and "Control", as they were by the lower court, simply because they have used, in connection with that pioneer concept and "Control," a mass of intricate circuits and other mechanisms having to do with the operation of a bank of cars, with deceleration, signalling and floor leveling. That the Parker "Control" could be and was so used in connection with these as to dominate them for accomplishing his pioneer concept emphasizes the importance and scope of his invention. The Supreme Court in the well-known and oft-quoted and approved decision in the case of *Cochrane* v. *Deener*, 94 U. S. 780, speaking through Mr. Justice Bradley in disposing of a similar contention said at page 787:

> "But it cannot be seriously denied that Cochrane's invention lies at the bottom of these improvements, is involved in them, and was itself capable of beneficial use, and was put to such use. It had all the elements and circumstances necessary for sustaining the patent, and *cannot be appropriated by the defendants, even*

though supplemented by and enveloped in very important and material improvements of their own.'' (Italics ours.)

CLAIMS OF PARKER PATENT 3, 22, 29, 40, 41 AND 65 IN SUIT APPLIED TO DEFENDANTS' INSTALLATION.

We have shown that the defendants' elevators utilize the Parker ''Control for Electric Elevator'' and in so using it have so operated their elevators as to accomplish its highly advantageous results.

The defendants' ''Automatic Stopping Control'' elevators are likewise clearly within the language and proper scope of each of the claims held valid and infringed by the Master, *i. e.,* 3, 22, 29, 40 and 65. Claim 41, likewise held valid by the Master, is also infringed.

In applying and interpreting each of these claims the Court should have in mind Parker's pioneer concept:

(a) That the Parker invention provides a radically new *''Control''* for an electric elevator in which an attendant is stationed in the car, the *starting* of the car being *entirely under the control of the attendant* and that once started the car will continue to run after the car switch handle is moved to off position, whereas the *stopping* of the car at the landings is *attained automatically* by pushing *buttons either in the car or at the landings.*

(b) That in any installation using the Parker invention, the *starting cannot be done from the push buttons but only from the car switch.*

(c) That the vice-president and chief engineer of defendant, Llewellyn Iron Works, Mr. Baruch, *admits* that in defendants' installation in the Pacific Finance Building the *starting* of the car *is controlled entirely by the operator within the car* (R. 133-134), and that when the operator from within the car pushes a button corresponding to any floor, ''the car automatically stops at the floor which is indicated without having the operator do anything else, and when any passenger at any landing pushes either the up or down button, the car is automatically stopped without the operator in the car having to do anything.''

"Neither the passenger outside the elevator nor the operator in the car can start the car" in normal operation "except the operator within the car may use the master switch for starting it"; and that

"In the ordinary course of operation in the Pacific elevator construction, the *starting* of the car is *done entirely* by the operator, and the stopping is done either by the operator pushing a button in the car or the passenger pushing one at the landing."

With the appreciation of the entire novelty of the Parker concept and with the admissions that the defendants' "Automatic Stopping Control" elevators operate in the same way and accomplish the same results in operation as Parker, it becomes only necessary to apply the claims of the Parker patent here asserted to defendants' structure.

For the purpose of comparison, the elements of the Parker patent corresponding to the elements of the claims will be pointed out in discussing the claims.

In applying these claims to defendants' installation, we refer to defendants' exhibits O-1, O-2, O-3 and O-4 (R. Vol. 3, 189-192), which both plaintiff and defendants agree correctly represent defendants' installation in the Pacific Finance Building, and which the Master used in finding infringement.

On Appendix Plate III we have shown the

"STARTING and RUNNING CIRCUIT"

"STOPPING CIRCUIT for CAR BUTTON"

"STOPPING CIRCUIT for UP HALL BUTTON"

shown in defendants' exhibits O-1 to O-4, segregated from the rest of its complicated wiring. The segregated circuits are identical with those on defendants' exhibits O-1 to O-4, as will be found by comparison.

The circuits on defendants' wiring diagrams (exhibits O-1 to O-4) are shown in what is commonly known as "straight line" form, in which the parts of the various mechanisms, such as the coils and contacts

of the various switches are shown in their proper places in the circuits but are physically separated so as to permit the various circuits to be straightened out to extend, in so far as possible, directly across the sheet from one supply line to the other and thus avoid the numerous crossings and recrossings of the wires. The circuits on Plate III, being taken from defendants' exhibits O-1 to O-4, are therefore of the same "straight line" form. In order to aid the following of the circuits, the coils and contacts of the various switches, wires, and so forth have been labeled as such in the circuits on Plate III.

On Appendix Plate IV we have shown the circuits of Appendix Plate III with the parts of the various mechanisms such as coils and contacts of the various switches shown diagrammatically in their physical relationship. This enables one not familiar with the use of straight line form diagrams to more readily perceive the operative relationship of the various coils, contacts and switches in the different circuits. We have, in Plate IV, also labeled the operative parts as in Plate III. For further simplification we have left in the Appendix to this Brief "Plaintiff's Exhibit 16" (R. 142) which as the master says (R. 575) "is argumentative". Still, taken in connection with the evidence of Mr. Crabbe (R. 152-158), it enables one to readily perceive from this schematic drawing, that defendants' installation utilizes, and is dominated by Parker's "Control."

CLAIM 3.

Claim 3 reads as follows:

> "The combination with a guided movable body of an electrical controlling circuit, a switch on said body manually operable for closing said circuit, means holding said switch in circuit closing position, and selective means for actuating the release of said switch holding means to stop said body at one or more predetermined

points in the line of its travel, said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected stopping point."

Analyzing claim 3 we find:

(1) **A guided movable body.**

This is the elevator car shown in the Parker patent, and is the elevator car in defendants' installation.

(2) **An electrical controlling circuit.**

This is the starting and running circuit which is completed, upon the manual operation of the car switch, to cause power to be applied to the elevator motor to start and run the car.

In the construction of the Parker patent, in up car travel, this circuit is through the car switch (master control switch) to the up coil 16 of the direction or pole changing switch. The completion of this circuit from line 12, through wire 14, car switch contacts 10 and 11 bridged by contact plate 9, wire 15, coil 16, to line 13, energizes coil 16 of the direction switch which thereupon closes its contacts 20-23 and 21-24 to cause power to be applied to the elevator hoisting motor, by connecting the hoisting motor armature 17 to supply lines 12 and 13. This starts the car in the up direction.

In defendants' structure, in up car travel, this circuit is through the car switch, the coil of up direction switch energizing relay 46 and the coil of circuit establishing relay 45, the operation of which causes the operation of up direction (or pole changing) switch 27 and main switch 48 respectively (defendants' exhibit O-3 and "Starting and Running Circuit", Appendix Plates III and IV). The

coils of relays 46 and 45 are energized from line LL1, through wire DU, the car switch, wire 1U, coil of relay 46, wire 3, coil of relay 45, wire N, contacts CR1 of anti-plugging relay 35, through various safety devices, to line LL2. Relay 45, upon energization of its coil, operates to close its contacts MD1 to effect the energization of the coil of switch 48, current flowing from line LL1, through contacts MD1 of relay 45, coil of residual killing switch 26, coil of main switch 48, contacts DS of door sequence relay 40 and the various safety devices, to line LL2. Relay 46, upon energization of its coil, operates to close its contacts UO1 to effect the energization of the coil of switch 27, current passing from line LL1, through the gate and door switches, contacts LVA of leveling switch connecting relay 44, contacts UO1 of relay 46, wire 10, up limit switch, wire 11, coil of up direction switch 27, coil of up holding relay 49, coil of brake switch 29, contacts M of main switch 48, through certain other safety devices and the previously mentioned safety devices, to line LL2. Up direction switch 27, upon energization of its coil, operates to close its contacts #1 and #3 (shown on Appendix Plate IV but not on Plate III) to cause power to be applied to the elevator hoisting motor, by connecting to supply lines LL1 and LL2 the field winding of the Ward-Leonard generator which applies power to the armature of the hoisting motor. This starts the car in the up direction.

(3) **A switch on said body manually operable for closing said circuit.**

This is the car switch in the Parker patent, and is the car switch in defendants' installation. In each case, the switch is located within the elevator car.

In the Parker patent, the car switch, referred to as the master control switch and designated by the numeral 1, is

provided with an operating lever 3, which is moved to the right to start the car in the up direction and to the left to start the car in the down direction. Operation of lever 3 to the right to effect up car travel moves contact plate 9 into engagement with contacts 10 and 11, which completes the circuit for up coil 16, causing the operation of the direction switch.

In defendants' construction, the car switch is shown on exhibit O-3. It has no designating numeral but is referred to at the left as the "car controller". Defendants' car switch is provided with a handle for operating the switch, this handle being moved to the left to start the car in the up direction and to the right to start the car in the down direction. Operation of the car switch to the left to effect up car travel moves a contact segment into engagement with a stationary contact, which completes the circuit for the coils of relays 46 and 45, causing the operation of the up direction switch.

(4) **Means holding said switch in circuit closing position.**

This is the circuit and mechanism which maintains the "electrical controlling circuit" closed independent of the car switch and therefore maintains the direction switch in operative condition, permitting the return of the car switch operating handle to "off" position without interrupting the running of the car.

In Parker, movement of the car switch operating handle to the right to bridge contacts 10 and 11 by contact plate 9, in addition to effecting the energization of up coil 16 of the direction switch, effects the energization of the coil 32 of up holding magnet 31, current flowing from line 12, through wire 14, car switch contacts 10 and 11, coil 32 of up holding magnet 31, wire 33, to line 13. Magnet 31, by holding contact plate 9 in position bridging contacts 10 and 11, acts to maintain completed the control circuit through up coil 16, thereby maintaining the direction switch operated so that

the attendant may release the operating handle of the car switch to "off" position without interrupting the running of the car.

In defendants' installation, movement of the car switch operating handle to the left to cause the operation of relay 46 (defendants' exhibit O-3 and "STARTING AND RUNNING CIRCUIT," Appendix Plates III and IV), in addition to effecting the energization of the coil of up direction switch 27, effects the energization of the coil of up holding relay 49, the coil of relay 49 being connected in series with the coil of up direction switch 27. Up holding relay 49, upon operation, closes its contacts UT1 which act to maintain completed the control circuit through the coils of relays 46 and 45, thereby maintaining the up direction switch operated so that the attendant may release the operating handle of the car switch to "off" position without interrupting the running of the car. The coil of relay 46 is maintained energized by contacts UT1 of up holding relay 49 when the car switch handle is in "off" position by current flowing from line LL1, through switch 3, wire DUF, contacts UT1 of relay 49, coil of relay 46, wire 3, coil of relay 45, wire N, contacts CR1 of relay 35, through the various safety devices, to line LL2. Contacts UT1 of up holding relay 49 are maintained closed with the car switch in "off" position since relay 46 maintains the coil of up holding relay 49 energized.

(5) **Selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel, said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected stopping point.**

This element of the claim includes the push buttons in

the car or the push buttons at the floors and the various switches, circuits and mechanisms which act automatically to cause the stopping of the car at any floor for which, in case of car buttons, a button in the car has been pressed or, in case of hall buttons, at which a button has been pressed. The push buttons control circuits which are completed as the car approaches the floors for which the buttons are provided. The completion of these circuits accomplishes two results:

(a) The initiation of the stopping of the car, which is brought to rest level with the floors for which the buttons are provided.

(b) The release of the holding means whereby the car switch must be operated again to start the car after each stop.

Assume in the Parker system that the car has taken on a passenger at the ground floor who desires to be carried to the fourth floor. The passenger, upon entering the car, informs the car attendant of his desired destination. The attendant thereupon presses the push button a4 for the fourth floor. This sets up a circuit as follows: line 12, through wire 15, car switch contacts 10 and 11, wire 35, coil e4, push button contacts d4-b4, through post c4, wire h4, to contact f4 of the selector. Contacts d4-b4 closed by the push button remain closed, thereby maintaining this circuit closed up to selector contact f4. As the car approaches the fourth floor in the up direction, stopping is initiated as follows: The selector contact brush 34, which is driven in synchronism with the car, engages stationary contact f4. This completes the circuit set up by the push button a4 from contact f4 through brush 34, current supply ring g, wire 36, coil 37 of up holding magnet 31, wire 38, to line 13. The completion of this circuit energizes coil 37 which neutralizes the magnetic action of coil 32 to release contact plate 9 from contacts 10 and 11. This releases the holding means. It also breaks the circuit for up coil 16 of the direction

switch. The direction switch opens contacts 20-23 and 21-24. Upon the opening of these contacts the car slows down and is thereafter brought to rest level with the fourth floor.

Similar operation takes place in the Parker system when a push button at a floor is pressed. Assume that an intending passenger standing at the third floor has pressed the up push button 13 at that floor. This sets up a circuit as follows: line 12, through wire n3, coil m3, post k3, push button contacts j3-l3, wire o3, contacts p3-b3, post c3, wire h3, to selector contact f3. Contacts j3-l3 closed by the push button remain closed so that upon the engagement of selector brush 34 with stationary contact f3 as the car approaches the third floor in the up direction, this circuit is completed, contact f3 being connected to line 13 as follows: from contact f3 through brush 34 and the current supply ring g, wire 36, coil 37 of up holding magnet 31, wire 38, to line 13. As in the case of a stop in response to a car button, the completion of this circuit releases the holding means and initiates stopping of the car.

Referring to defendants' structure, assume that the car has taken on a passenger at the ground floor who desires to be carried to the seventh floor. The passenger, upon entering the car, informs the car attendant of his desired destination. The attendant thereupon presses car push button 7 for the seventh floor (defendants' exhibit O-2 and "Stopping Circuit for Car Button", Plates III and IV). This sets up a circuit as follows: from line LL1, through switch 3 to wire X (see also defendants' exhibit O-3), car nonstop button, wire C1, the contacts of push button 7, wire C7, to the seventh floor up switch 2U1 of the selector, termed by defendants "automatic slow-down and stopping machine". The contacts closed by the pressing of the seventh floor car button remain closed, thereby maintaining this circuit closed up to selector seventh floor switch 2U1.

As the car approaches the seventh floor in the up direction, stopping is initiated in the following manner: A selector cam, which is driven in synchronism with the car, closes seventh floor switch 2U1. This completes the circuit set up by the seventh floor car button from switch 2U1, wire YOU, coil of slow-down relay 5, wire YU, resistance, wire YUU, contacts UO2 of relay 46, contacts EA of relay 1, contacts OA of relay 2, wire Y, switch 3, to line LL2 (see also defendants' exhibit O-3). The coil of relay 5, being energized, closes its contacts HO to energize the coil of slow-down retaining relay 2 from line LL1, through switch 3, wire X, contacts RCA of reset relay 24, wire X1, coil of relay 2, contacts HO of relay 5, resistance, wire Y, switch 3, to line LL2, and relay 2, in turn, closes its contacts O2 (defendants' exhibit O-3) to energize the coil of generator field weakening switch 21 from line LL1, through contacts MR of relay 15, contacts O2 of relay 2, coil of switch 21, coil of damping control relay 20, through the safety devices, to line LL2. Switch 21, in turn, opens its contacts STA, causing the car to slow-down. After several steps of slow down, the leveling switch, to the control of which the energization of the coils of holding relay 49 and direction switch 27 has been transferred by the closing of contacts LV and the opening of contacts LVA of leveling switch connecting relay 44 as one of the steps of slow-down takes place, opens its contacts (defendants' exhibit O-4 and "Starting and Running Circuit", Plates III and IV) to de-energize the coil of holding relay 49, thus releasing the holding means. The coil of direction switch 27 is also de-energized, which opens contacts #1 and #3 and the car is brought to rest level with the seventh floor.

Similar operation takes place in defendants' installation when a push button at a floor is pressed. Assume that an intending passenger standing at the third floor has pressed

the up hall push button H3U at that floor (defendants' exhibit O-1 and "Stopping Circuit for Up Hall Button", Plates III and IV). This button acts through up third floor signal relay 4 and car flash relay 54 in setting up a circuit to the selector instead of directly as in the case of defendants' car buttons. The pressing of the button energizes the actuating coil of relay 4 from line L1 of a low voltage source, through the coil of night bell relay 53, push button H3U, actuating coil of relay 4, wire N, to line L2 of this source. Relay 4, upon operation, engages contacts HR3U-1 and HR3U-3, the engagement of contacts HR3U-1 connecting the holding coil of relay 4 to lines L1 and L2 through contacts R3U of up third floor reset relay 17. Thus contacts HR3U-3 of relay 4 are maintained closed electromagnetically instead of by a latch as in the case of defendants' car buttons. As the car approaches the third floor in the up direction, stopping is initiated in the following manner: The brushes B of the Randall signal machine, which are driven in synchronism with the car, complete the circuit for the coil of car flash relay 54 from line L1 through contacts HR3U-3 of relay 4, the signal segment, brushes and car flash strip of the signal machine, coil of relay 54 and contacts NS3 of non-stop relay 58, to line L2. (This circuit is shown on Plates III and IV but the portion of the circuit up to the signal machine is not shown on defendants' exhibits O-1 to O-4. This circuit for the floor relays for the down push buttons at floors 5, 6, 7 and 8 may be seen on defendants' exhibit P-2.) Relay 54, upon operation, engages its contacts PL3 in a circuit to selector up switch 2U2 for the third floor (defendants' exhibit O-2). Thereafter, the third floor selector switch 2U2 is closed by a cam on the selector, completing a circuit for the coil of slow-down relay 5 as follows: from line LL1, through switch 3, wire X, contacts PL3 of relay 54, contacts DOA

of down direction switch energizing relay 47, switch 2U2, wire YOU, coil of relay 5, wire YU, resistance, wire YUU, contacts UO2 of relay 46, contacts EA of relay 1, contacts OA of relay 2, wire Y, to line LL2. The completion of this circuit causes the car to be brought to a stop at the third floor in exactly the same manner as described for stopping the car at the seventh floor in response to the seventh floor car button.

PARKER "CONTROL" ACCOMPLISHES A RADICALLY NEW RESULT. CLAIM 3 AND EACH OF THE OTHER CLAIMS CLEARLY COVERS DEFENDANTS' "CONTROL."

As there is no "Control" for electric elevators in the prior art which has in its concept, or so functions and operates as to have the *starting* of the car "*entirely* and *singly*" in the manual control of the operator, and the stopping automatically attained in sequence at the different floors in response to push buttons located in the car and at the different floors, claim 3 and each of the other claims is entitled to a liberal interpretation. They should each be so construed as to cover not only the identical mechanism shown in the Parker diagrammatic drawings, but any equivalent means which accomplishes the results of the Parker concept.

To illustrate: It is immaterial whether the switch which holds the electrical controlling circuit, for starting and running the car, closed after the car switch on the elevator has been manually operated for closing that circuit, is secured to the car, or is in the penthouse, provided that the car switch when thrown to "on" position completes the starting and running circuit, and the running circuit is maintained closed when the car switch handle is returned to "off" position.

In the Parker patent when the car switch handle is moved to "on" position, it throws a switch which completes

the starting and running circuit, and when thus completed the running circuit is maintained closed when the car switch handle is returned to "off" position and the car continues to run. The car is not thereafter stopped by the operation of the car switch handle but in response to push buttons located either in the car or at the landings.

In defendants' structure exactly the same thing happens, the only difference between the two structures being that in the case of the Parker patent, the switch which is directly acted upon by the car switch handle is so held as to keep the running circuit completed, whereas in defendants' installation other switches in the running circuit are maintained closed for accomplishing the same result.

Claim 3 of the Parker patent itself provides for a switch (car switch) on the body manually operable for closing the electrical controlling circuit (the starting and running circuit), and when this switch is thrown to "on" position, the electrical controlling circuit is completed and power is delivered to the elevator motor, and the car starts to run.

In defendants' structure there is likewise a switch (car switch) on the body manually operable for closing the electrical controlling circuit (the starting and running circuit), and when this switch is thrown to "on" position, the electrical controlling circuit is completed and power is delivered to the elevator motor, and the car starts to run.

In defendants' structure, the movement of the operator's car handle to "on" position in the car not only closes the switch in the car, but also closes other switches in the electrical controlling circuit located in the penthouse, and these latter switches have means for holding them in circuit closing position, so that power is delivered to the elevator motor through the electrical controlling circuit after the car switch handle in defendants' installation has been returned to "off" position, and the car will continue

to run until automatically stopped in response to buttons pushed either in the car or at any landing.

The mere fact that defendants' electrical controlling circuit, for starting and running the car, has more switches in it than shown in the diagrammatic drawings of the Parker patent, and the fact that they locate the switches and magnets for maintaining the running circuit closed, in the penthouse, instead of on the car body, cannot permit defendants to escape the charge of infringement. The means for holding either of the switches in circuit closing position accomplishes exactly the same result, to wit, the maintenance of the electrical controlling circuit after the car switch handle has been moved to "off" position, so that the car continues to run. The Master was clearly right in his conclusion (R., 581) that the holding means used by the defendants is equivalent to the holding means specified by Parker.

In the Parker patent, as well as in defendants' structure, the car is stopped automatically in response to push buttons as distinguished from stopping by means of the operation of the car switch.

The fact that defendants used in their installation a highly developed means of accelerating, decelerating and leveling the elevator car in nowise affects the question here involved, for unless these structures are harnessed by the Parker "Control," which requires that the car be started singly and only from the car switch, and stopped automatically in response to push buttons located in the car or at the landings, the defendants' structure could not accomplish the results of the Parker invention.

From the Parker disclosure it is plain that he intended to use his "Control" in connection with various elevator equipment, and "that the stopping should initiate sufficiently in advance of the landing to permit the timely op-

eration of the decelerating and stopping mechanism." (R., 582, Patent p. 5, lines 23-30.)

When Parker calls in claim 3 for selective means for actuating the release of the switch holding means to stop the car at one or more predetermined points in its line of travel, both his patent and his testimony plainly show that he teaches the use of automatic stopping circuits to initiate the stopping of the car, whereby the car will automatically come to the desired landing, and that after this stop has been made, the car can only again be started by the operator throwing the car switch to "on" position.

Throughout the specifications and the testimony of Parker himself, it is plain that he contemplated the timing and arrangement of the automatic secondary closing means to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car, so that the ultimate point at which the car comes to rest will be in proper alignment with the floor level. (Patent, p. 5, lines 23-30.)

Thus Parker plainly indicates that the automatic circuit closer is to be operable at such time and at such selected points as to enable the proper slowing down and braking mechanism to be utilized in stopping, which any engineer knows must be done. To interpret claim 3 otherwise would be to read it contrary to the entire disclosures of Parker and inconsistent with all elevator practice.

Claim 3 of the reissue patent is exactly the same as original claim 3. Its infringement is clear, and given only a restricted range of equivalents, while it is entitled to a liberal range, it clearly includes the defendants' structure, which operates in the same manner and accomplishes the same result as the Parker concept disclosed in his patent.

Parker, a non-member of the elevator industry, having "taught the art a new means of "Control" that solves many

old problems,'' and ''judged by the results'' having made ''a radical step forward,'' as found by the Master (R. 574) should not be limited to the specific disclosures of his diagrammatic drawing.

Had the lower court appreciated, as did the Master after hearing the witnesses, the great inventive advance over the prior art, he would of necessity have held claim 3 and each of the other claims infringed by the defendants' structure.

CLAIM 22.

Claim 22 reads as follows:

> ''A control system for an elevator car comprising a plurality of control means, one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated, and only one control means for causing the starting of the car, said one control means being operable only from within the car.''

Claim 22 defines a control system for an elevator car comprising, in combination:

(1) A plurality of control means, one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated.

This element of the claim includes the push buttons at the landings, switching mechanism controlled by car movement, circuits, switches and other apparatus, which are controlled by the push buttons and by this mechanism, whereby the car is automatically brought to a stop at landings at which push buttons have been pressed. ''Operable from without the car'', as specified in this claim, means that the push buttons, included as a part of this portion of the claim, are located at the landings.

Assume in the Parker structure that an intending passenger at the third floor has pressed the up push button i3

at that floor. This sets up one of the circuits included in this element of the claim, which extends from line 12 through wire n3, coil m3, post k3, push button contacts j3-l3, wire o3, contacts p3-b3, post c3, wire h3, to selector contact f3. As the car approaches the third floor in the up direction, the selector completes this circuit, the selector contact brush 34, driven in synchronism with the car, engaging stationary contact f3 and connecting it to line 13 as follows: from contact f3 through brush 34, current supply ring g, wire 36, coil 37 of up holding magnet 31, wire 38, to line 13. The completion of this circuit energizes coil 37, which neutralizes the magnetic action of coil 32 to release contact plate 9 from contacts 10 and 11. This breaks the circuit for up coil 16 of the direction switch. The direction switch opens its contacts, whereupon the car slows down and is thereafter brought to rest level with the third floor.

Assume that in defendants' structure an intending passenger standing at the third floor has pressed up hall push button H3U at that floor (defendants' exhibit O-1 and "Stopping Circuit for Up Hall Button", Plates III and IV). The pressing of the button energizes the actuating coil of relay 4 from line L1, through coil of relay 53, push button H3U, coil of relay 4, to line L2. Relay 4, upon operation, engages contacts HR3U-1 and HR3U-3, the engagement of contacts HR3U-1 rendering the relay self-holding by energizing its holding coil. As the car approaches the third floor in the up direction, stopping is initiated in the following manner: The Randall signal machine completes the circuit for the coil of relay 54 from line L1 through contacts HR3U-3 of relay 4, the segment, brushes and strip of the signal machine, coil of relay 54 and contacts NS3 of relay 58, to line L2. The energization of the coil of relay 54 closes contacts PL3 in the circuit to selector up switch 2U2 for the third floor.

The selector cam thereafter closes switch 2U2 to energize the coil of slow-down relay 5, as follows: from line LL1, through switch 3, wire X, contacts PL3 of relay 54, contacts DOA of relay 47, switch 2U2, wire YOU, coil of relay 5, wire YU, resistance, wire YUU, contacts UO2 of relay 46, contacts EA of relay 1, contacts OA of relay 2, wire Y, to line LL2. The energization of the coil of relay 5 closes contacts HO to energize the coil of slow-down retaining relay 2 from line LL1, through switch 3, wire X, contacts of reset relay 24, wire X1, coil of relay 2, contacts HO of relay 5, resistance, to wire Y, and the energization of the coil of relay 2, in turn, closes contacts O2 (defendants' exhibit O-3) to energize the coil of generator field weakening switch 21 from line LL1, through contacts MR of relay 15, contacts O2 of relay 2, coil of switch 21, coil of relay 20, through the safety devices, to line LL2. Switch 21 opens its contacts STA causing the car to slow down, and after several steps of slow-down, the car is brought to rest level with the third floor.

(2) Only one control means for causing the starting of the car, said one control means being operable only from within the car.

This is the control means by which, and by which alone, the circuit to start the car is completed.

In the Parker patent, movement of the operating handle of the car switch to one of its "on" positions closes a circuit to start the car. The car switch is located within the elevator car and is the only control means provided for starting the car. For up car travel, the operating handle 3 of the car switch is moved to the right to bridge contacts 10 and 11 by contact plate 9. This energizes up coil 16 of the direction switch as follows: from line 12, through wire 14, contacts 10 and 11, wire 15, coil 16, to line 13. The direction switch closes its contacts 20-23 and 21-24 to

cause power to be applied to the hoisting motor by connecting the hoisting motor armature 17 to supply lines 12 and 13. This starts the car in the up direction.

In defendants' installation, movement of the operating handle of the car switch to one of its "on" positions (see defendants' exhibit O-3 and the "STARTING AND RUNNING CIRCUIT," Plates III and IV) closes a circuit to start the car. The car switch is located within the elevator car and is the only control means provided by defendants for starting the car. For up car travel, the operating handle of the car switch is moved to the left to energize the coil of up direction switch energizing relay 46 and the coil of circuit establishing relay 45 as follows: from line LL1, through wire DU, the car switch, wire IU, coil of relay 46, wire 3, coil of relay 45, wire N, contacts CR1 of anti-plugging relay 35, through the safety devices, to line LL2. Relay 46 closes its contacts UO1 to energize the coil of up direction switch 27, from line LL1, through the gate and door switches, contacts LVA of leveling switch connecting relay 44, contacts UO1 of relay 46, wire 10, up limit switch, wire 11, coil of up direction switch 27, coil of up holding relay 49, coil of brake switch 29, contacts M of main switch 48, through the safety devices, to line LL2, and relay 45 closes its contacts MD1 to energize the coil of main switch 48, from LL1 through contacts MD1 of relay 45, coil of residual killing switch 26, coil of main switch 48, contacts DS of the door sequence relay 40, through the various safety devices, to line LL2. The main switch engages its contacts M to connect the hoisting motor armature to the armature of the Ward-Leonard generator and the direction switch engages its contacts #1 and #3 to cause power to be applied to the hoisting motor armature by connecting the field winding of the generator to supply lines LL1 and LL2. This starts the car in the up direction.

Defendants' "Automatic Stopping Control" is clearly within the plain language and scope of claim 22.

CLAIM 29.

Claim 29 reads as follows:

> "A control system of the type wherein an elevator car is driven by means of power mechanism and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car or a switch at the landing, characterized by the fact that means are provided only in the car for causing the operation of the power mechanism to start the car."

Claim 29 has included in it the following combination of elements:

(1) **An elevator car.**

(2) **Power mechanism for driving the car.**

(3) **A switch within the car for controlling the operation of the power mechanism to stop the car at a landing.**

(4) **A switch at a landing for controlling the operation of the power mechanism to stop the car at a landing.**

(5) **Means only in the car for causing operation of the power mechanism to start the car.**

Referring to this claim, element for element:

(1) An elevator car.

This is the elevator car shown in the Parker patent and is the elevator car in defendants' installation.

(2) Power mechanism for driving the car.

This is the hoisting motor of the Parker patent, together with the hoisting sheave, ropes, brake, etc., which operate to start, run and stop the elevator car. This is likewise defendants' hoisting motor, together with the hoisting sheave, ropes, brake, etc., which operate to start, run and stop the car in defendants' installation.

(3) A switch within the car for controlling the operation of the power mechanism to stop the car at a landing.

When any one of the push buttons in the Parker car is pressed, it closes a control circuit from one side of the current supply lines to the selector. Assuming, as in the example chosen in discussing claims 3 and 22, that car push button a4 for the fourth floor is pressed, this connects selector contact f4 to line 12. This circuit is closed to the other side of the supply lines by the selector upon engagement of selector brush 34 with contact f4 as the car nears the fourth floor in its upward travel, which causes the car to slow down. The car is thereafter brought to rest at the fourth floor. The manner in which the power mechanism is controlled to slow down the car and bring it to a stop has already been set forth in detail (see discussions of claims 3 and 22).

When any one of the push buttons in defendants' car is pressed, it closes a control circuit from one side of the current supply lines to the selector. Assuming, as in the example chosen in discussing claims 3 and 22, that car push button 7 for the seventh floor is pressed, this connects selector up switch 2U1 for the seventh floor to line LL1. This circuit is closed to the other side of the current supply lines (line LL2) by the selector upon selector up seventh floor switch 2U1 being closed by a selector cam as the car nears the seventh floor in its upward travel, which causes this car to slow down. The car is thereafter brought to rest at the seventh floor. The control of the power mechanism to slow down the car and bring it to a stop has already been fully set forth (see discussions of claims 3 and 22).

(4) A switch at a landing for controlling the operation of the power mechanism to stop the car at a landing.

The push buttons at the landings in the Parker structure act, when pressed, to close control circuits from one side of the current supply lines to the selector. Assume that up push button i3 at the third floor is pressed. This connects selector contact f3 to line 12. This circuit is completed by the engagement of selector brush 34 with contact f3 as the car nears the third floor in its upward travel, which causes the car to slow down. The car is thereafter brought to rest at the third floor. (See discussions of claims 3 and 22.)

Similarly, the push buttons at the landings in defendants' installation act, when pressed, through relays to close circuits from one side of the current supply lines to the selector. Assume that up push button H3U at the third floor is pressed. This button acts through up third floor signal relay 4, the Randall signal machine and car flash relay 54 to connect selector up switch 2U2 for the third floor to line LL1. The closing of selector up third floor switch 2U2 by the cam as the car nears the third floor in its upward travel completes this control circuit, which causes the car to slow down. The car is thereafter brought to rest at the third floor. (See discussions of claims 3 and 22.)

(5) Means only in the car for causing operation of the power mechanism to start the car.

Parker provides but one switch for starting the car. This is the car switch, which is located within the elevator car. This switch acts through a control circuit (for up car travel, for example, to effect the energization of up coil 16 of the direction switch) to cause the operation of the direction switch which, in turn, causes power to be applied

to the hoisting motor of the power mechanism to start the car. (For a more detailed description of starting the car, see the discussions of claims 3 and 22.)

Likewise, in defendants' installation, there is but one switch provided to start the car, this being the car switch located within the elevator car. This switch acts through a control circuit in effecting the starting of the car. For up car travel, for example, the car switch causes the operation of up direction switch energizing relay 46 which in turn causes the operation of the up direction switch 27. The up direction switch causes power to be applied to the hoisting motor of the power mechanism, starting the car in the up direction. (For a more detailed description of starting the car, see discussions of claims 3 and 22.)

This claim reads clearly on defendants' control system and is infringed by it.

CLAIM 40.

Claim 40 reads as follows:

> "A control system for an elevator car comprising a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches, one for each of said landings, start control switching mechanism and car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction and responsive to said start control switching mechanism to start the car."

Claim 40 defines a control system for an elevator car comprising:

(1) A plurality of stop switches, one for each of a plurality of landings.

These are, for example, the up push buttons at the landings in Parker and in defendants' installation.

(2) A plurality of additional stop switches, one for each of said landings.

These are, for example, the down push buttons at the landings in Parker and in defendants' installation.

(3) Start control switching mechanism.

This is Parker's car switch, and is likewise defendants' car switch.

(4) **Car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction and responsive to said start control switching mechanism to start the car.**

This includes the hoisting mechanism, *i. e.,* the hoisting motor, driving sheave, ropes, brake, etc. It also includes the various switches and circuits controlled by

(a) the push buttons and mechanism operated by car movement to cause the operation of the hoisting mechanism to stop the car, during up car travel, at landings at which up push buttons have been operated and, during down car travel, at landings at which down push buttons have been operated, and

(b) the car switch to cause operation of the hoisting mechanism to start the car after each stop.

In Parker, as has already been pointed out in detail (see

discussions of claims 3 and 22), the pressing of any up push button at a landing sets up a control circuit to the selector. This circuit is completed by the selector, as the car, in its upward travel, nears the landing at which the button is located to initiate stopping of the car and the car is then brought to rest level with that landing. Similarly, the pressing of any down push button at a landing sets up a control circuit to the selector. This circuit is completed by the selector, as the car, in its downward travel, nears the landing at which the button is located, to initiate stopping of the car and the car is then brought to rest level with that landing. The operation of the Parker system in response to down push buttons corresponds to the operation in response to up push buttons, and therefore need not be given in detail. The circuits controlled by the push buttons and selector are arranged in such manner that stops in response to up push buttons are made only during upward movement of the car and stops in response to down push buttons are made only during downward movement of the car. The up push button circuits extend through release coil 37 of up holding magnet 31 while the down push button circuits extend through release coil 37′ of down holding magnet 31′. Inasmuch as contact plate 9 is in position bridging contacts 10 and 11 during up car travel, coil 37 must be energized in order to effect the release of this plate from these contacts to stop the upwardly moving car. Consequently, as down push button circuits can only effect the energization of coil 37′, the down push buttons are ineffective to cause stopping of the car during up car travel. Similarly, as contact plate 9′ is in position bridging contacts 10′ and 11′ during down car travel, coil 37′ must be energized in order to effect the release of this plate from these contacts to stop the downwardly moving car. Consequently, as up push button circuits can only effect the energization of coil 37, the up push buttons are ineffective to cause stopping of the car during down car travel.

The car in Parker's system is started after each stop by movement of the car switch operating handle to "on" position. For up car travel, this handle is moved to the right, while for down car travel, the handle is moved to the left.

In defendants' installation, as a result of the pressing of any up push button at a landing, a control circuit to the selector is set up through the intermediary of the floor signal relay for that push button, the Randall signal machine and car flash relay 54. This circuit is completed by the selector, as the car in its upward travel nears the landing at which the button is located, causing the car to slow down, and the car is then brought to rest level with that landing (see discussions of claims 3, 22 and 29). Similarly, as a result of the pressing of any down push button at a landing, a control circuit to the selector is set up through the intermediary of the floor signal relay for that button, the signal machine and relay 54. This circuit is completed by the selector, as the car in its downward travel nears the landing at which the button is located, causing the car to slow down, and the car is then brought to rest level with that landing. The operation of defendants' system in response to down push buttons corresponds to the operation in response to up push buttons, and therefore need not be given in detail. The circuits controlled by the push buttons and selector are arranged in such manner that stops in response to up push buttons are made only during upward movement of the car and stops in response to down push buttons are made only during downward movement of the car. The circuits through the contacts of the up push button floor signal relays extend through up signal segments of the Randall signal machine while the circuits through the contacts of the down push button floor signal relays extend through down signal segments of the signal machine (defendants' exhibit P-2). Inasmuch as the signal machine up brushes

B, which bridge the up signal segments with the up car flash strip, are connected only during up car travel and as the down brushes which bridge the down signal segments with the down car flash strip are connected only during down car travel, the up push buttons are ineffective to cause stopping of the car during down car travel and the down push buttons are ineffective to cause stopping of the car during up car travel. In addition, contacts UO2 of up direction switch energizing relay 46 and contacts DOA of down direction switch energizing relay 47 are arranged in the up selector circuits and contacts DO2 of down direction switch energizing relay 47 and contacts UOA of up direction switch energizing relay 46 are arranged in the down selector circuits to cause the up selector switches 2U2 to be effective during up car travel and the down selector switches 2D2 to be effective during down car travel (defendants' exhibit O-2).

The car in defendants' structure is started after each stop by movement of the car switch operating handle to "on" position. For up car travel, this handle is moved to the left, while for down car travel it is moved to the right.

This claim also reads on the Parker arrangement and defendants' installation, taking the car buttons instead of the hall buttons as the stop switches. It is infringed by defendants.

CLAIM 65.

Claim 65 reads as follows:

> "A control system for an elevator car comprising, a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches, one for each of said landings, and means responsive to the first named switches to stop the car at the landings corresponding to the first named switches operated, only when the car is traveling in one direction, and to the additional switches to stop the car at the landings cor-

responding to the additional switches operated, only when the car is traveling in the other direction, regardless of the position of the car when the various first named and additional switches are operated or the relative order in which the various first named and additional switches are operated."

The Parker invention, as defined in claim 65, comprises in combination:

(1) **A plurality of stop switches, one for each of a plurality of landings.**

These are, for example, the up push buttons at the landings in Parker and in defendants' installation.

(2) **A plurality of additional stop switches, one for each of said landings.**

These are, for example, the down push buttons at the landings in Parker and in defendants' installation.

(3) **Means responsive to the first named switches to stop the car at the landings corresponding to the first named switches operated, only when the car is traveling in one direction, and to the additional switches to stop the car at the landings corresponding to the additional switches operated, only when the car is traveling in the other direction.**

In both the Parker patent and defendants' installation, there are mechanisms and circuits which are responsive to the push buttons at the landings to stop the car, during up car travel, at the floors at which up push buttons have been pressed and, during down car travel, at the floor at which down push buttons have been pressed, as has already been fully set forth in detail in discussing claim 40.

(4) **Regardless of the position of the car when the various first named and additional switches are operated or the relative order in which the various first named and additional switches are operated.**

This means that the location of the car at the time the push buttons at the landings are pressed is immaterial. In other words, once up push buttons at the landings have been pressed, the car must make stops, when traveling in the up direction, at the landings at which such buttons are located, and, once down push buttons at the landings have been pressed, the car must make stops, when traveling in the down direction, at the landings at which such buttons are located. This also means that the sequence in which the push buttons at the landings are pressed is immaterial. In other words, the car must make stops at landings at which buttons have been pressed even though the buttons are pressed in an order different from the order in which the landings are reached by the car.

In the Parker patent, whenever a push button at a landing is pressed, contacts are closed which are maintained closed until the reset coil for these contacts is energized. The reset coils for up push buttons are energized when stops are made during up car travel at the landings at which up push buttons have been operated, while the reset coils for down push buttons are energized when stops are made during down car travel at the landings at which down push buttons have been operated. Although in the diagram of the Parker patent, the reset coils for the contacts closed by the up push buttons at the landings and for the contacts closed by the down push buttons at the landings are connected directly to line 12, it is apparent that, in order to accomplish the objects set forth in the Parker specification, all the reset coils for the contacts closed by the up push buttons may be connected to line 12 through contacts 10 and 11 of the car switch and all the reset coils for the

contacts closed by the down push buttons may be connected to line 12 through contacts 10′ and 11′ of the car switch. This may be done by disconnecting wires n2, n3 and n4 from line 12 and connecting up reset coils m2, m3 and m4 to wire 35 and down reset coils m2′, m3′ and m4′ to wire 35′. This connects these reset coils in the identical manner in which the reset coils for the contacts closed by the push buttons in the car are shown connected in the Parker diagram (R. 528-529).

With this arrangement, assume, for example, that the up push button i3 at the third floor is pressed while the car is at the ground floor and that the car is then started in the up direction. The car is brought to a stop during its upward travel at the third floor, as has been fully explained in discussing the previous claims. When the stop is made, reset coil m3 for contacts j3-l3, closed as a result of the pressing of push button i3, is energized as follows: from line 12, through wire 15, car switch contacts 10 and 11, wire 35, coil m3, post k3, push button contacts j3-l3, wire o3, contacts p3-b3, post c3, wire h3, to selector contact f3, brush 34, current supply ring g, wire 36, coil 37 of up holding magnet 31, wire 38, to line 13. The energization of reset coil m3 restores contacts j3-l3 to open circuit condition. Assume now that the car is at the top floor at the time that the up push button i3 at the third floor is pressed, and that the car is started in the down direction on a trip to the ground floor. During downward movement of the car, car switch contacts 10′ and 11′ are bridged by contact plate 9′, whereas contact plate 9 is disengaged from contacts 10 and 11. Therefore, during the down trip of the car, although the up third floor selector stationary contact f3 is again engaged by brush 34, reset coil m3 is not energized to effect the opening of contacts j3-l3, nor is a stop made in response to up third floor push button i3, owing to the fact that the circuit through selector contact f3 is open at

contacts 10 and 11. On the next trip in the up direction, the car stops at the third floor and contacts j3-l3, closed by the pressing of up third floor push button i3, are reset, as described above.

With this arrangement, therefore, it makes no difference in the Parker system where the car may be at the time a push button at a landing is pressed because the contacts which are closed are maintained closed until a stop is made at that floor in the proper direction. Neither does it make any difference in what order the push buttons at the landings may be operated, since the control circuits closed to the selector stationary contacts by the pressing of these buttons are completed by the selector in the sequence of floors. Thus, stops are made at floors at which push buttons have been pressed without regard to the sequence in which the pressing of the buttons occurred.

In defendants' installation, whenever a push button at a landing is pressed, contacts are closed which are maintained closed until the reset coil for these contacts is energized. The reset coils for up push buttons are energized when stops are made during up car travel at the landings at which up buttons have been operated, while the reset coils for down push buttons are energized when stops are made during down car travel at the landings at which down buttons have been operated. Assume, for example, that the up push button H3U at the third floor is pressed while the car is at the ground floor and that the car is then started in the up direction. The car is brought to a stop during its upward travel at the third floor, as has been fully explained in discussing the previous claims. When the stop is made, the coil of reset relay 17 for contacts HR3U-3 of up third floor signal relay 4, closed as a result of the pressing of push button H3U, is energized as follows: from line L1 of the low voltage source, through contacts NS1 of non-stop relay 58, through contacts DRS

which are closed momentarily upon the closing of the hall door at the third floor after the transfer of passengers has been effected, the up reset strip, brushes and segment of the Randall signal machine, coil of relay 17, wire N, to line L2 (defendants' exhibit O-1 and "Stopping Circuit for Up Hall Button", Plates III and IV). The energization of the coil of up third floor reset relay 17 restores contacts HR3U-3 to open circuit condition, by opening its contacts R3U to deenergize the holding coil of up third floor signal relay 4. Assume now that the car is at the top floor at the time that the up push button H3U at the third floor is pressed, and that the car is started in the down direction on a trip to the ground floor. During downward movement of the car, the down reset segments of the Randall signal machine are successively bridged to the down reset strip, whereas the up reset segments are not bridged to the up reset strip. This is due to the fact that, during down car travel, the up and down switch of the Randall signal machine is in position to connect the brushes for the down reset strip and segments and to disconnect the brushes for the up reset strip and segments. Therefore, during the down trip of the car, although the up third floor reset segment is again engaged by the brush, the coil of reset relay 17 is not energized to effect the opening of contacts HR3U-3 owing to the fact that the circuit for effecting energization of the coil of the reset relay is open at the reset brushes of the Randall signal machine. Also, the car does not stop in response to up third floor push button H3U during its down trip to the ground floor, as previously explained in discussing claim 40. On its next trip in the up direction, the car stops at the third floor and contacts HR3U-3 of up third floor relay 4 are reset, as described above. (The reset brushes of the signal machine are not shown on defendants' exhibit O-1 but the down reset brushes are shown on defendants' exhibit P-1 in connection with the circuits for the down reset relays for other floors.)

It makes no difference, therefore, in defendants' installation where a car may be at the time a push button at a landing is pressed because the contacts which are closed are maintained closed until a stop is made at that floor in the proper direction. Neither does it make any difference in what order the push buttons at the landings may be operated, since the control circuits closed to the Randall signal machine and, in turn, to the selector switches, as a result of the pressing of these buttons, are completed by the signal machine and by the selector in the sequence of floors. Thus, stops are made at floors at which push buttons have been pressed without regard to the sequence in which the pressing of the buttons occurred.

This claim also reads on the Parker arrangement and defendants' installation, taking the car buttons instead of the hall buttons as the stop switches.

DEFENDANTS INFRINGE CLAIMS 3, 22, 29, 40 AND 65.

From the above, it is clear that each of these claims of the Parker patent includes defendants' structure. It is also plain that the means employed by defendants in carrying out the Parker concept operate in substantially the same manner, for accomplishing exactly the same result, as the means shown and described in the Parker patent. That these claims are infringed is confirmed by the report of the Master (R. 581-588).

DEFENDANTS ALSO INFRINGE CLAIM 41 OF PARKER PATENT.

The Master held claim 41 valid but not infringed (R. 572, 587) and this holding was confirmed by the lower court (R. 644).

Claim 41 reads as follows:

> "A control system for an elevator car comprising, a plurality of stop switches, one for each of a plurality of landings, a plurality of additional stop switches,

one for each of said landings, start control switching mechanism, car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction, and responsive to said start control switching mechanism to start the car, and means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car is traveling in said other direction and in response to said additional stop switches when the car is traveling in said one direction.''

Claim 41 defines a control system for an elevator car comprising:

(1) **A plurality of stop switches, one for each of a plurality of landings.**

These are, for example, the up push buttons i2, i3, etc., at the landings in Parker and the up push buttons H2U, H3U, etc., at the landings in defendants' installation.

(2) **A plurality of additional stop switches, one for each of said landings.**

These are, for example, the down push buttons i2′, i3′, etc., at the landings in Parker and the down push buttons H2D, H3D, etc., at the landings in defendants' installation.

(3) **Start control switching mechanism.**

This is the car switch in the Parker patent, and is the car switch in defendants' installation. In each case, the switch is located within the elevator car.

In the Parker patent, the car switch, referred to as the master control switch and designated by the numeral 1, is provided with an operating lever 3, which is moved to the right to start the car in the up direction and to the left to

start the car in the down direction. Movement of lever 3 to the right to effect up car travel moves contact plate 9 into engagement with contacts 10 and 11, while movement of the lever to the left to effect down car travel moves contact plate 9′ into engagement with contacts 10′ and 11′.

In defendants' construction, the car switch is shown on exhibit O-3 where it is designated as "car controller". This switch is provided with an operating handle which is moved to the left to start the car in the up direction and to the right to start the car in the down direction. Movement of the handle to the left to effect up car travel moves a contact segment into engagement with a stationary contact, while movement of the handle to the right to effect down car travel moves the contact segment into engagement with a different stationary contact.

(4) **Car actuating and stopping mechanism responsive to the first named stop switches to stop the car at the landings corresponding to said first named stop switches operated, only when the car is traveling in one direction, responsive to said additional stop switches to stop the car at the landings corresponding to said additional stop switches operated, only when the car is traveling in the other direction, and responsive to said start control switching mechanism to start the car.**

This includes the hoisting mechanism, *i. e.,* the hoisting motor, driving sheave, ropes, brake, etc. It also includes the various switches and circuits controlled by:

(a) the push buttons and mechanism operated by car movement to cause the operation of the hoisting mechanism to stop the car, during up car travel, at landings at which up push buttons have been operated and, during down car travel, at landings at which down push buttons have been operated, and

(b) the car switch to cause operation of the hoisting mechanism to start the car after each stop.

Assume in the Parker system that the car is positioned at the ground floor. To start the car in the up direction, the attendant moves the operating handle 3 of the car switch to the right to bridge contacts 10 and 11 by contact plate 9. This completes the circuit for up coil 16 of the direction or pole-changing switch as follows: from line 12, through wire 14, car switch contacts 10 and 11, bridged by contact plate 9, wire 15, coil 16, to line 13. The energization of coil 16 operates the direction switch to close contacts 20-23 and 21-24. This causes power to be applied to the elevator hoisting motor by connecting the hoisting motor armature 7 to supply lines 12 and 13. This starts the car in the up direction. The bridging of contacts 10 and 11 also effects the energization of the coil 32 of up holding magnet 31, current flowing from line 12, through wire 14, car switch contacts 10 and 11, coil 32, wire 33, to line 13. Magnet 31, by holding contact plate 9 in position bridging contacts 10 and 11, acts to maintain completed the control circuit through up coil 16, thereby maintaining the direction switch operated so that the attendant may release the operating handle of the car switch to "off" position without interrupting the running of the car. Starting of the car in the down direction is effected in a similar manner, and need not be described in detail.

Assume in defendants' installation that the car is positioned at the ground floor. To start the car in the up direction, the attendant moves the operating handle of the car switch to the left to move the contact segment into engagement with the left-hand stationary contact. This completes the circuit for the coil of up direction switch energizing relay 46 and coil of circuit establishing relay 45, the operation of which causes the operation of up direction (or pole changing) switch 27 and main switch 48 respectively (defendants' exhibit O-3 and "STARTING AND RUNNING CIRCUIT", Plates III and IV). The coils of relays 46 and 45 are energized from line LL1, through wire DU, the car switch,

wire 1U, coil of relay 46, wire 3, coil of relay 45, wire N, contacts CR1 of anti-plugging relay 35, through various safety devices, to line LL2. Relay 45, upon energization of its coil, operates to close its contacts MD1 to effect the energization of the coil of switch 48, current flowing from line LL1, through contacts MD1 of relay 45, coil of residual killing switch 26, coil of main switch 48, contacts DS of door sequence relay 40 and the various safety devices, to line LL2. Relay 46, upon energization of its coil, operates to close its contacts UO1 to effect the energization of the coil of switch 27, current passing from line LL1, through the gate and door switches, contacts LVA of leveling switch connecting relay 44, contacts UO1 of relay 46, wire 10, up limit switch, wire 11, coil of up direction switch 27, coil of up holding relay 49, coil of brake switch 29, contacts M of main switch 48, through certain other safety devices and the previously mentioned safety devices, to line LL2. Up direction switch 27, upon energization of its coil, operates to close its contacts #1 and #3 (not shown on Plate III but shown on Plate IV) to cause power to be applied to the elevator hoisting motor, by connecting to supply line LL1 and LL2 the field winding of the Ward-Leonard generator which applies power to the armature of the hoisting motor. This starts the car in the up direction. Movement of the car switch operating handle to the left also effects the energization of the coil of up holding relay 49, the coil of relay 49 being connected in series with the coil of up direction switch 27. Up holding relay 49, upon operation, closes its contacts UT1 which act to maintain completed the control circuit through the coils of relays 46 and 45, thereby maintaining the up direction switch operated so that the attendant may release the operating handle of the car switch to "off" position without interrupting the running of the car. The coil of relay 46 is maintained energized by contacts UT1 of up holding relay 49 when the car switch handle is in "off" position by current flowing from

line LL1, through switch 3, wire DUF, contacts UT1 of relay 49, coil of relay 46, wire 3, coil of relay 45, wire N, contacts CR1 of relay 35, through the various safety devices, to line LL2. Contacts UT1 of up holding relay 49 are maintained closed with the car switch in "off" position since relay 46 maintains the coil of up holding relay 49 energized. The starting of the car in the down direction is effected in a similar manner and need not be described in detail.

As regards stopping the car, assume in the Parker system that an intending passenger standing at the third floor has pressed the up push button i3 at that floor. This sets up a circuit from line 12, through wire n3, coil m3, post k3, push button contacts j3-l3, wire o3, contacts p3-b3, post c3, wire h3, to selector contact f3. Contacts j3-l3, closed by the push button, remain closed, thereby maintaining the circuit closed up to selector contact f3. As the car approaches the third floor in the up direction, stopping is initiated in the following manner: The selector contact brush 34, which is driven in synchronism with the car, engages stationary contact f3. This completes the circuit set up by the up third floor push button i3 from contact f3 through brush 34, current supply ring g, wire 36, coil 37 of up holding magnet 31, wire 38, to line 13. The completion of this circuit energizes coil 37, which neutralizes the magnetic action of coil 32 to release contact plate 9 from contacts 10 and 11. This breaks the circuit for up coil 16 of the direction switch. The direction switch opens contacts 20-23 and 21-24. Upon the opening of these contacts, the car slows down and is thereafter brought to rest level with the third floor.

Assume now in Parker that a down push button is pressed instead of an up push button. The pressing of this button sets up a control circuit to the selector. This circuit is completed by the selector, as the car in its down-

ward travel nears the landing at which the button is located, to initiate stopping of the car and the car is then brought to rest level with that landing. The operation of the Parker system in response to down push buttons corresponds to the operation in response to up push buttons, and therefore need not be given in detail.

Assume that in defendants' structure an intending passenger standing at the third floor has pressed an up hall push button H3U at that floor (defendants' exhibit O-1 and "STOPPING CIRCUITS for UP HALL BUTTON", Plates III and IV). This button acts through up third floor signal relay 4 and car flash relay 54 to set up a circuit to selector switch 2U2 for the third floor. The pressing of the button energizes the actuating coil of relay 4 from line L1, through coil of relay 53, push button H3U, coil of relay 4, to line L2. Relay 4, upon operation, engages contacts HR3U-1 and HR3U-3, the engagement of contacts HR3U-1 rendering the relay self-holding by energizing its holding coil. As the car approaches the third floor in the up direction, stopping is initiated in the following manner: The Randall signal machine completes the circuit for the coil of relay 54 from line L1 through contacts HR3U-3 of relay 4, the segment, brushes and strip of the signal machine, coil of relay 54 and contacts NS3 of relay 58, to line L2. The energization of the coil of relay 54 closes contacts PL3 in the circuit to selector up switch 2U2 for the third floor. The selector cam thereafter closes switch 2U2 to energize the coil of slow-down relay 5, as follows: from line LL1, through switch 3, wire X, contacts PL3 of relay 54, contacts DOA of relay 47, switch 2U2, wire YOU, coil of relay 5, wire YU, resistance, wire YUU, contacts UO2 of relay 46, contacts EA of relay 1, contacts OA of relay 2, wire Y, to line LL2. The energization of the coil of relay 5 closes contacts HO to energize the coil of slow-down retaining relay 2 from line LL1, through switch 3, wire X, contacts of reset relay

24, wire X1, coil of relay 2, contacts HO of relay 5, resistance, to wire Y, and the energization of the coil of relay 2, in turn, closes contacts O2 (defendants' exhibit O-3) to energize the coil of generator field weakening switch 21 from line LL1, through contacts MR of relay 15, contacts O2 of relay 2, coil of switch 21, coil of relay 20, through the safety devices, to line LL2. Switch 21 opens its contacts STA, causing the car to slow down, and after several steps of slow-down, the car is brought to rest level with the third floor.

Assume now in defendants' installation that a down push button is pressed instead of an up push button. The pressing of this button sets up a control circuit to the selector through the intermediary of the floor signal relay for that button, the signal machine and the car flash relay 54. This circuit is completed by the selector, as the car in its downward travel nears the landing at which the button is located, causing the car to slow down, and the car is then brought to rest level with that landing. The operation of defendants' system in response to down push buttons corresponds to the operation in response to up push buttons, and therefore need not be given in detail.

(5) **Means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car is traveling in said other direction and in response to said additional stop switches when the car is traveling in said one direction.**

The circuits in both the Parker patent and in defendants' installation are arranged in such manner that stops in response to up push buttons are prevented during downward movement of the car and stops in response to down push buttons are prevented during upward movement of the car.

In the Parker arrangement, the up push button circuits extend through release coil 37 of up holding magnet 31 while the down push button circuits extend through release coil 37′ of down holding magnet 31′. Inasmuch as contact plate 9 is in position bridging contacts 10 and 11 during up car travel, coil 37 must be energized in order to effect the release of this plate from these contacts to stop the upwardly moving car. Consequently, as the down push button circuits can only effect the energization of coil 37′, the stopping of the car in response to down push buttons is prevented during upward movement of the car. Similarly, as contact plate 9′ is in position bridging contacts 10′ and 11′ during down car travel, coil 37′ must be energized in order to effect the release of this plate from these contacts to initiate stopping of the downwardly moving car. Consequently, as up push button circuits can only effect the energization of coil 37, the stopping of the car in response to up push buttons is prevented during downward movement of the car.

In defendants' arrangement, the circuits through the contacts of the floor signal relays controlled by the up push buttons extend through up signal segments of the Randall signal machine while the circuits through the contacts of the floor signal relays controlled by the down push buttons extend through down signal segments of the signal machine (defendants' exhibit P-2). Inasmuch as the signal machine up brushes B, which bridge the up signal segments with the up car flash strip, are connected only during up car travel and as the down brushes which bridge the down signal segments with the down car flash strip are connected only during down car travel, stopping of the car in response to up push buttons is prevented during downward movement of the car and stopping of the car in response to down push buttons is prevented during upward movement of the car. In addition, contacts UO2 of up direction switch

energizing relay 46 and contacts DOA of down direction switch energizing relay 47 are arranged in the up selector circuits and contacts DO2 of down direction switch energizing relay 47 and contacts UOA of up direction switch energizing relay 46 are arranged in the down selector circuits to cause the up selector switches 2U2 to be effective during up car travel and the down selector switches 2D2 to be effective during down car travel (defendants' exhibit O-2).

This claim also reads on the Parker patent and defendants' installation taking the car buttons instead of the hall buttons as stop switches.

Thus, both Parker and defendants have all the elements of claim 41, combined in the same way to produce the same results.

The Master states as his reason for holding claim 41 not to be infringed that the last element of the claim, namely (R. 586):

> "means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to the first named stop switches when the car is traveling in said other direction and in response to said additional stop switches when the car is traveling in said one direction"

in defendants' installation is not the equivalent of the means employed by Parker.

In stopping, both Parker and defendants energize a magnet coil as the car approaches the floor at which a stop is to be made.

In the Parker structure, two magnet coils are provided, one for controlling stopping of the car only during up car travel and the other for controlling stopping of the car only during down car travel, and the up and down circuits are separated by running the up push button circuits through the up stop controlling magnet coil and the down

push button circuits through the down stop controlling magnet coil.

In defendants' installation, one magnet coil is provided for controlling stopping of the car during both directions of car travel, and the up and down circuits are separated by running the up push button circuits through this coil by way of contacts which are closed only during up car travel and the down push button circuits through this coil by way of contacts which are closed only during down car travel.

It is submitted that the electrical and mechanical parts are full equivalents. Each of the Parker claims here asserted is clearly infringed. This is fully supported by the following authorities.

INFRINGEMENT CLEAR UNDER THE DECISIONS OF THE SUPREME COURT, THIS AND OTHER APPELLATE COURTS, WHICH FULLY SUPPORT THE MASTER'S FINDINGS.

The infringement is plain, complete and servile, and the evidence clearly shows that the defendants' device is but a copy of plaintiff's Otis "Signal Control" elevators, made under the Parker patent, and is intentionally designed to and does accomplish the same results in substantially the same way.

That, where the substance of an invention is appropriated, infringement is not avoided by changes in details of construction, or by additions or improvements, which do not deprive the device of its functions, is a proposition too well established by the decisions to be seriously disputed. In substantially all the cases where infringement has been adjudicated the defendant has made greater changes from the construction illustrated in the patent than in the present case; in none of them have the functions and results disclosed in the patent been more fully utilized; in some of them the departure has been such as to escape the

language of the claims; but, notwithstanding this, infringement has been found, because the substantial inventive concept was present and the defendant was not permitted to escape by substituting elements which, while performing the functions as the elements of the claims, were not within its exact language. Here the infringement responds to the terms of the claims, and is the plain equivalents of each. In many of the cases the defendant has been conceded to have made substantial improvements upon the patented device, and these improvements have been recognized as patentable, but, notwithstanding this, infringement has been found. See:

Winans v. *Denmead,* 15 How. 330.
Blake v. *Robertson,* 94 U. S. 728.
Hoyt v. *Horne,* 145 U. S. 302, 309.
Loom Co. v. *Higgins,* 105 U. S. 580.
Clough v. *Barker,* 106 U. S. 166.
Clough v. *Manufacturing Co.,* 106 U. S. 178.
Consol. Valve Co. v. *Crosby Valve Co.,* 113 U. S. 157, 167.
Morley Machine Co. v. *Lancaster,* 129 U. S. 263.
Royer v. *Schultz Belting Co.,* 135 U. S. 319.
Sessions v. *Romadka,* 145 U. S. 29.
Keystone Mfg. Co. v. *Adams,* 151 U. S. 139.
Hobbs v. *Beach,* 180 U. S. 383, 398.
Busch v. *Jones,* 184 U. S. 598.
Paper Bag Patent Case, 210 U. S. 405.

The Supreme Court in *Hildreth* v. *Mastoras,* 257 U. S. 27, repeatedly cited and quoted with approval, considered and disposed, adversely to the defendant, of the contention of non-infringement quite similar to the one here.

In the *Mastoras* case the patent related to a candy pulling machine. The claims were directed to a machine having a trough *for supporting* and reciprocating pins in the

trough for pulling the candy. The defendant's machine had no trough. The pins which did the pulling also served as a support for the candy while being pulled. Notwithstanding this apparent marked departure and the fact that the defendant had dispensed with plaintiff's trough and relied on the pins to not only do the pulling but serve as a support for the candy, the Court in finding infringement said at page 36:

> "The counsel for the respondent, however, urge that the trough, not shown in the alleged infringement, is a necessary element of Dickinson's claim, because without it the batch of candy could not be supported against gravity, and he suggests no alternative. Dickinson says in his specifications that he shows a trough for supporting the candy, but any suitable support may be used which has the capacity for supporting the candy while it is being operated upon. Two of the machines, the Jenner and the first Thibodeau, which were in interference in the Patent Office with Dickinson, had the pins set, not in an upright but in a horizontal position, and thus the candy in their machines needed no trough support but rested on the pins themselves, and this Langer has adopted. Doubtless this was an improvement which was perhaps patentable, but none of the tribunals in the Patent Office proceedings deemed this to be more than an improved equivalent of the trough which did not take these machines out of the domination of the claim awarded to Dickinson. As the Dickinson patent is a generic patent, the doctrine of broad equivalents properly applies here. *Morely Sewing Machine Co.* v. *Lancaster,* 129 U. S. 263, 273; *Miller* v. *Eagle Manufacturing Co.,* 151 U. S. 186, 207; *Paper Bag Patent Case,* 210 U. S. 405."

In *Stebler* v. *Riverside Heights Orange Growers' Assn.,* 205 Fed. 735 (C. C. A. 9), the defendant was operating under the Parker patent, but this Court held that the additions of the Parker patent did not avoid infringement, although an additional function was performed, ruling, in this orange grader case, even where the defendant's addi-

tions were *patented,* that there was infringement, in the following language, p. 739-740:

> "The only question, therefore, is whether the longitudinal extensibility of the defendants' device operates to avoid the charge of infringement, and this question must be answered in the negative. The defendants have appropriated the plaintiff's invention, the essence of which is the combination with a traveling belt (common to the Ish, Strain, and Parker machines) of a series of independent rotating units arranged in longitudinal succession parallel with the belt, each transversely adjustable. One who appropriates another's patented invention, even though he may add thereto another element to perform an additional function, is guilty of infringement. *Powell* v. *Leicester Mills Co.,* 108 Fed. 386, 47 C. C. A. 416; *Letson* v. *Alaska Packers' Ass'n.,* 130 Fed. 129, 64 C. C. A. 463; *American Can Co.* v. *Hickmott Co.,* 142 Fed. 141, 146, 73 C. C. A. 359; *Columbia Wire Co.* v. *Kokomo Co.,* 143 Fed. 116, 74 C. C. A. 310; *Comptograph Co.* v. *Mechanical Acct. Co.,* 145 Fed. 331, 337, 76 C. C. A. 205; *Corrington* v. *Westinghouse Co.* C. C. 173 Fed. 69, 81; *Weston Elec. Inst. Co.* v. *Whitney Co.* (C. C.) 131 Fed. 280; *Diamond Match Co.* v. *Ruby Match Co.* (C. C.) 127 Fed. 341; *Benjamin Elec. Co.* v. *Dale Co.,* 158 Fed. 617, 85 C. C. A. 439; *O'Leary* v. *Utica & Mohawk Co.* (C. C.) 139 Fed. 330; *L. J. Mueller Co.* v. *Groeschel* (C. C.) 166 Fed. 917; *Long* v. *Noye Mfg. Co.* (C. C.) 192 Fed. 570. In *Cimiotto Unhairing Co.* v. *American Unhairing Mach. Co.,* 115 Fed. 498, 504, 53 C. C. A. 230, 236, the Circuit Court of Appeals of the Second Circuit uses the following language:
>
> 'The mere fact that there is an addition, or the mere fact that there is an omission, does not enable you to take the substance of the plaintiff's patent. The question is, not whether the addition is material, or whether the omission is material, but whether what has been taken is the substance of the invention'."

In *Angelus Sanitary Can Mach. Co.* v. *Wilson,* 7 F. (2d) 314, this Court found infringement by a structure, *which was patented on behalf of defendant.* The Guenther patented structure was found to infringe the Wilson *et al.* patent in suit, the court saying, p. 319:

> "Without restating the mechanisms in further de-

tail, the conclusion we must reach is that claim 2, when applied to Guenther's patent, No. 1,441,195, January 2, 1923, reads upon his practice and device."

This Court also said, p. 318:

"We regard claim 2, in the element of encircling means, as entitled to a construction which includes a fairly liberal range of equivalents. The difference in the use of a mechanical equivalent does not avoid infringement. In *Eibel Process Co.* v. *Paper Co.,* 261 U. S. 45, 43 S. Ct. 322, 67 L. Ed. 523, the court, through the Chief Justice, clearly reiterated the doctrine that where an inventor, though not a pioneer in the sense of having created a new art, has made a very useful discovery which has substantially advanced the art, his patent, though but an improvement on an old machine, may be entitled to liberal treatment. That same principle was applied by this court in *Smith Cannery Co.* v. *Seattle Astoria Iron Works* (C. C. A.) 261 F. 87. Defendants therefore cannot escape infringement by adding to or taking from the patented device by changing its form, or even by making it somewhat more or less efficient, while they retain its principle and mode of operation and attain its results by the use of the same or equivalent mechanical means. *Lourie* v. *Lenhart,* 130 F. 122, 64 C. C. A. 456; *Letson* v. *Alaska Packers Association,* 130 F. 129, 64 C. C. A. 463; *Eck* v. *Kutz* (C. C.) 132 F. 758. By varying the encircling means, but producing the same results in substantially the same manner, there is infringement. Both physical and mechanical encircling with centering are found in defendants' machine, *Union Paper Bag Machine Co.* v. *Murphy,* 97 U. S. 120, 24 L. Ed. 935; *Kinloch Telephone Co.* v. *Western Electric Co.,* 113 F. 659, 51 C. C. A. 362; *Auto Pneumatic Action Co.* v. *Kindler & Collins, supra; Pangborn Corporation* v. *Sly Mfg. Co.* (C. C. A.) 284 F. 217."

In *Bliss et al.* v. *Spangler,* 217 Fed. 394, this Court found the Bliss device to be an infringement of Spangler's combination patent, although it was strongly urged before this Court that Bliss had *reorganized* the device and patented that reorganization. Addition of inventive factors, as well as those involving mere mechanical skill, and

whether those inventive factors are patented or not, does not avoid infringement.

In *Parker* v. *Automatic Mach. Co.,* 227 Fed. 449, opinion by the late District Judge Van Fleet of the District Court for the Northern District of California, the controversy involved a patent for a box-making machine. There counsel for defendant attempted to make it appear that a certain "elevator" feature of plaintiff's device was its "life-giving principle" and "so essential to the successful operation of the entire combination of correlated parts that without it the machine was not workable, and that consequently 'there can be no infringement of the Parker patent by any machine which does not employ the same principle of action, to wit, the elevator principle'." (p. 452.) The court went on to say, p. 452:

> "In this I am unable to accept defendant's view, but am satisfied that he greatly magnifies the functional value of that element in its relation to the other features of the combination. As I regard it, this feature of the feed mechanism of plaintiff's device is in no wise essential to its life; nor do the terms of the patent make it so. Any other means of an equivalent nature may be substituted for it and still be within the patent; and from my observation of the operation of the two machines, in the light of the evidence, I am quite satisfied that the substitute means employed in defendant's device is no more than such a change as might readily have been suggested to the mind of any mechanic skilled in the art, with plaintiff's device before him, and that it in no material way effects a change in the principle or mode of operation found in plaintiff's combination.
>
> While changing its form, all defendant has accomplished in substance and effect is the consolidation of two elements of the feeding mechanism into one, but without changing the principle upon which the combinative mechanisms operate. This does not avoid infringement. As stated by the Court of Appeals in the recent case of *Dundon* v. *Pederson,* 220 Fed. 309, 311:
>
> 'Neither the joinder of two elements of a patented

combination into one integral part, accomplishing the purpose of both, nor the separation of one integral part into two, which together accomplish substantially what was done by the single element, will avoid a charge of infringement. *Bundy Mfg. Co.* v. *Detroit Time Register Co.,* 94 Fed. 524, 36 C. C. A. 375; *Standard Caster & Wheel Co.* v. *Caster Socket Co.,* 113 Fed. 162, 51 C. C. A. 109; *H. F. Brammer Mfg. Co.* v. *Witte Hardware Co.,* 159 Fed. 726, 728, 86 C. C. A. 202.'

It is the idea of means, and not of form, which is determinative of identity of principle. Thus it is said in *Lourie Co.* v. *Lenhart,* 130 Fed. 122, 64 C. C. A. 456:

'A device which is constructed on the same principle, which has the same mode of operation, and which accomplishes the same result as another, by the same means, or by equivalent mechanical means, is the same device, and a claim in a patent of one such device claims and secures the other.'

And this is so even if the change work an improvement. Thus in *Crown Cork & Seal Co.* v. *Aluminum Stopper Co.,* 108 Fed. 866, 48 C. C. A. 72, it is said:

'The court will look through the disguises, however ingenious, to see whether the inventive idea of the original patentee has been appropriated, and whether the defendants' device contains the material features of the patent in suit, and will declare infringement, even when those features have been supplemented and modified to such an extent that the defendant may be entitled to a patent for the improvement.'

See, also, *Machine Co.* v. *Murphy,* 97 U. S. 120, 24 L. Ed. 395.''

The above matter very well applies to the case at bar, for defendants' counsel will attempt to make it appear that because a part of one of the switches controlled from the car is moved out of the elevator car into the penthouse there can be no infringement. Defendants likewise may urge that certain details are the ''life-giving'' features of the invention, where, as a matter of fact they are merely used in such a way as to be dominated by the Parker ''Control.'' In the third place they may contend that they

have worked improvements, even reflecting invention, in their changes. These do not avoid infringement.

In *Butler* v. *Burch Plow Co.,* 23 F. (2d) 15, this Court well said of the combination patent there in controversy, (p. 27):

> "Where a combination patent marks a distinct advance in the art to which it relates, as does the appellant's invention here, the term 'mechanical equivalent' should have a reasonably broad and generous interpretation, and protection against the use of mechanical equivalents in a combination patent is governed by the same rules as patents for other inventions. *Imhaeuser* v. *Buerk,* 101 U. S. 647, 25 L. Ed. 945. The fact, if it be a fact, that the infringing machine is superior, more useful, and more acceptable to the public than that of the appellant, does not avoid infringement, so long as the essential features of the appellant's patented machine are used, unless its superiority is due to a difference in function or mode of operation or some essential change in character. *Morley Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 S. Ct. 299, 32 L. Ed. 715; *Hoyt* v. *Horne,* 145 U. S. 302, 12 S. Ct. 922, 36 L. Ed. 713; *Lourie Implement Co.* v. *Lenhart,* 130 F. 122, 64 C. C. A. 456; *Diamond Match Co.* v. *Ruby Match Co.* (C. C.) 127 F. 341; *Whitely* v. *Fadner* (C. C.) 73 F. 486." *Smith Cannery Machines Co.* v. *Seattle-Astoria I. W.* (C. C. A.) 261 F. 85, 88.

Defendants therefore cannot escape infringement by adding to or taking from the patented device by changing its form, or even by making it somewhat more or less efficient, while they retain its principle and mode of operation and attain its results by the use of the same or equivalent mechanical means. *Lourie* v. *Lenhart,* 130 F. 122, 64 C. C. A. 456; (Leston) *Letson* v. *Alaska Packers' Association,* 130 F. 129, 64 C. C. A. 463; *Eck* v. *Kutz* (C. C.) 132 F. 758. By varying the encircling means, but producing the same results in substantially the same manner, there is infringement. Both physical and mechanical encircling, with centering, are found in defendants' machine. *Union Paper Bag Machine Co.* v. *Murphy,* 97 U. S. 120, 24 L. Ed. 935; *Kinloch Telephone Co.* v. *Western Electric Co.,* 113 F. 659, 51 C. C. A. (369) 362; *Auto Pneumatic*

Action Co. v. *Kindler & Collins* (C. C. A. 247 F. 323), *supra; Pangborn Corporation* v. *Sly Mfg. Co.* (C. C. A.) 284 F. 217.' *Angelus Sanitary Can Mach. Co.* v. *Wilson* (C. C. A.) 7 F. (2d) 314, 318."

On the question of dividing up and rearranging elements of a patented combination, such as making one of the switches in two parts and the like, this Court, in *Kings County Raisin and Fruit Co. et al.* v. *U. S. Cons. Seeded Raisin Co.,* 182 Fed. 59, 63, said:

> "Infringement is not avoided by the fact that one of the integral elements of his built-up impaling roll is by the appellants separated into two or more distinct parts, so long as the function and operation remain substantially the same. *Kalamazoo Ry. Supply Co.* v. *Duff Mfg. Co.,* 113 Fed. 264, 51 C. C. A. 221; *Bundy Mfg. Co.* v. *Detroit Time-Register Co.,* 94 Fed. 524, 36 C. C. A. 375; *H. F. Brammer Mfg. Co.* v. *Witte Hardware Co.,* 159 Fed. 726, 86 C. C. A. 202."

In *Carson Inv. Co.* v. *Anaconda Copper Mining Co.,* 26 F. (2d) 651, 662, this Court said:

> "But, by not using Carson's invention to its full extent in protecting the side walls from heat, yet using it to a substantial extent, defendant cannot avoid infringement. *Winans* v. *Denmead,* 15 How. 344, 14 L. Ed. 717, followed in *King Ax Co.* v. *Hubbard* (C. C. A.) 97 F. 795. See, also, *Penfield* v. *Chambers* (C. C. A.) 92 F. 630, and *Kawneer* v. *Detroit* (D. C.) 240 F. 737."

In *Union Tool Co.* v. *Wilson,* 249 Fed. 736, it was contended there was no infringement because the defendant-appellant did not use all of the features of the patented device, an underreamer for oil wells. The decree was affirmed by this Court. It said (p. 747):

> "The fact that the appellant has not used each attribute of the Wilson invention cannot excuse it from being held to infringement. The *Paper Bag Case,* 210 U. S. 405, 28 Sup. Ct. 748, 52 L. Ed. 1122; *Stebler* v. *Riverside Heights Association,* 205 Fed. 735, 124 C. C. A. 29; *Parker* v. *Automatic Machine Co.* (D. C.) 227 Fed. 451; *Jackson Fence Co.* v. *Peer-*

less Fence Co., 228 Fed. 691, 143 C. C. A. 213; Walker on Patents, Sec. 350."

In *Remington Cash Register Co.* v. *National Cash Register Co.,* 6 F. (2d) 585 (D. C. Conn.) the Court well summarizes the rules to be applied at page 591:

"Neither the joining of two elements into an integral part, accomplishing the purpose of both, and no more, nor the separation of one integral part into two, which together do substantially what was done with the single element will evade a charge of infringement. The rule here applicable was stated by Mr. Justice Curtis, speaking for the Supreme Court in *Winans* v. *Denmead,* 56 U. S. (15 How.) 330, at page 343, 14 L. Ed. 717, in the following manner:

" 'Where form and substance are inseparable, it is enough to look at the form only. Where they are separable, where the whole substance of the invention may be copied in a different form, it is the duty of courts and juries to look through the form for the substance of the invention, for that which entitled the inventor to his patent, and which the patent was designed to secure; where that is found, there is an infringement, and it is not a defense that it is embodied in a form not described, and in terms claimed by the patentee.'

* * * * *

"In the later case of *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.,* 210 U. S. 405, at page 422, 28 S. Ct. 748, 752 (52 L. Ed. 1122), the Supreme Court had under consideration a claim on a bag-making machine very similar in character to the Gubelmann claims here in issue, and Mr. Justice McKenna, speaking for the court, on page 422 (28 S. Ct. 752), said:

" 'The claim is not for a function, but for mechanical means to bring into working relation the folding plate and the cylinder. This relation is the very essence of the invention, and marks the advance upon the prior art. It is the thing that never had been done before, and both the lower courts found that the machines of the Continental Company were infringements of it.'

"The above language covers the situation in the case at bar, in that the mechanical means defined by Gubelmann's claims are the very essense of the Gubel-

mann invention, and defendant's machines incorporate these mechanical means, or their equivalents, in their constructions. In the *Paper Bag Case,* Mr. Justice McKenna, on page 418 (28 S. Ct. 751), further stated:

" 'We think it is clear that the court considered that Liddell sought to comply with section 4888 of the Revised Statutes (U. S. Comp. St. 1901, p. 3383). In other words, he filed a description of his invention, explained its principle and the best mode in which he 'contemplated applying that principle,' and did not intend to give up all other modes of application. An inventor must describe what he conceives to be the best mode, but he is not confined to that. If this were not so, most patents would be of little worth. 'The principle of the invention is a unit, and invariably the modes of its embodiment in a concrete invention may be numerous and in appearance very different from each other.' Robinson Patents, Sec. 485.

"In *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.,* 261 U. S. 45, at page 63, 43 S. Ct. 322, 328 (67 L. Ed. 523), Mr. Chief Justice Taft said:

" 'In administering the patent law the court first looks into the art, to find what the real merit of the alleged discovery or invention is, and whether it has advanced the art substantially. If it has done so, then the court is liberal in its construction of the patent, to secure to the inventor the reward he deserves.'

"The Gubelmann patent, disclosing, as defendant's expert admits, broadly new inventions in the art, is entitled to a broad range of mechanical equivalents, as was held in the recent case of *Hildreth* v. *Mastoras,* 257 U. S. 27, on page 36, 42 S. Ct. 20, 24 (66 L. Ed. 112), where Mr. Chief Justice Taft said that, 'as the Dickinson patent is a generic patent, the doctrine of broad equivalents properly applies here.' This follows the well-established rule pronounced by Mr. Justice McKenna in the *Paper Bag Co. Case, Supra,* at page 414 (28 S. Ct. 749), which was stated in the following language:

" 'The right view is expressed in *Miller* v. *Eagle Manufacturing Company,* 151 U. S. 186, 207 (14 S. Ct. 310, 318 (38 L. Ed. 121)), as follows: "The range of equivalents depends upon the extent and nature of the invention. If the invention is broad and pri-

mary in its character, the range of equivalents will be correspondingly broad, under the liberal construction which the courts give to such inventions.'

"The doctrine of equivalents is well stated by Judge Colt in *Edison Electric Light Co.* v. *Boston Incandescent Lamp Co.* (C. C.) 62 F. 397, at page 399:

" 'The doctrine of equivalents, as applied to primary inventions, rests upon a more satisfactory basis by the elimination of the qualification of age or time, and by holding those things to be equivalents which perform the same function in substantially the same way. The fundamental question is whether the alleged infringer makes use of the essence of the patented invention; not whether he has adopted a known equivalent, or made a patentable improvement on the invention.'

"The above decision was cited with approval by Judge Hough in *Treibacher* v. *Roessler* (D. C.) 214 F. 410, at 413; affirmed 219 F. 210, 135 C. C. A. 108. See also *General Electric Co.* v. *Alexander* (C. C. A. 2d) 280 F. 852; *Wagner Typewriter Co.* v. *Wyckoff, Seamans & Benedict,* 151 F. 585, 81 C. C. A. 129; *Manton-Gaulin Mfg. Co.* v. *Dairy Machinery & Construction Co.* (D. C.) 238 F. 210; affirmed, 247 F. 317, 159 C. C. A. 411."

THAT INFRINGEMENT IS NOT AVOIDED BY MAKING ADDITIONS OR IMPROVEMENTS; NOR BY THE FACT THAT DEFENDANT HAS A PATENT THEREFOR. SEE ALSO:

Hobbs v. *Beach,* 180 U. S. 383, 401;

Lord & Burnham Co. v. *Payne,* 195 Fed. 75 (C. C. A. 3);

Columbia Wire Co. v. *Kokomo Steel & Wire Co.,* 143 Fed. 116, 124 (C. C. A. 7);

Benjamin v. *Dale Co.,* 158 Fed. 617 (C. C. A. 2);

Nathan v. *Howard,* 143 Fed. 889 (C. C. A. 6);

Toledo Plate & Window Glass Company v. *Kawneer Manufacturing Co.,* 237 Fed. 364 (C. C. A. 6);

International Time Recording Co. v. *Dey,* 142 Fed. 736 (C. C. A. 2).

THAT INFRINGEMENT IS NOT AVOIDED BY DIMINISHING OR INCREASING UTILITY OF PATENTED CONSTRUCTION OR IMPROVING ITS FUNCTIONS. SEE ALSO:

Penfield v. *Chambers Bros. Co.,* 92 Fed. 630, 653, (C. C. A. 6), where Judge Taft, speaking for the Court of Appeals says (p. 653):

> "An infringer cannot evade liability for his infringement by deliberately diminishing its utility without changing materially its form, its chief function, or its manner of operation. *Sewing Mach. Co.* v. *Frame,* 24 Fed. 596."

Murray v. *Detroit Wire Spring Co.,* 206 Fed. 465, where the Court of Appeals for the Sixth Circuit held that (p. 466):

> "Infringement is not avoided by impairment of the functions of an element of a patented device in degree, if the distinguishing function is retained, nor by adding elements to the completed structure of the patent."

And cited in support of this:

Penfield v. *Chamber Bros. Co.,* 92 Fed. 630, and

King et al. v. *Hubbard,* 97 Fed. 795.

Goessling Box Co. v. *Gumb,* 241 Fed. 674 (C. C. A. 8).

Owens v. *Twin City Separator Co.,* 168 Fed. 259 (C. C. A. 8).

Brake Beam Case, 106 Fed. 693 (C. C. A. 8).

PLAINTIFF ENTITLED TO ALL THE ADVANTAGES INHERENT IN ITS PATENTED APPARATUS.

The courts plainly support this contention.

In *Diamond Rubber Company of New York* v. *Consolidated Rubber Tire Company,* 220 U. S. 428, the Supreme Court states the rule concerning the necessary completeness of disclosure in a patent as follows (p. 435):

"A patentee may be baldly empirical, seeing noth-

ing beyond his experiments and the result; yet if he has added a new and valuable article to the world's utilities he is entitled to the rank and protection of an inventor. And how can it take from his merit that he may not know all the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative ideas involved. *Andrew* v. *Croos,* 8 Fed. Rep. 269; *Eames* v. *Andrews,* 122 U. S. 40, 55; *St. Louis Stamping Co.* v. *Quinby,* 16 Off. Gaz. 135; *Dixon Wood Co.* v. *Pfeifer,* 55 Fed. Rep. 390; *Cleveland Foundry Co.* v. *Detroit Vapor Stove Co.* (C. C. A. Sixth Circuit), 131 Fed. Rep. 853; *Van Epps* v. *United Box Co.* C. C. A. Second Circuit), 143 Fed. Rep. 869; *Westmoreland Specialty Co.* v. *Hogan,* (C. C. A. Third Circuit), 167 Fed. Rep. 327. *He must, indeed, make such disclosure and description of his invention that it may be put into practice. In this he must be clear. He must not put forth a puzzle for invention or experiment to solve but the description is sufficient if those skilled in the art can understand it.* This satisfies the law, which only requires as a condition of its protection that the world be given something new and that the world be taught how to use it. *It is no concern of the world whether the principle upon which the new construction acts be obvious or obscure, so that it inheres in the new construction.*"

In *Morgan Engineering Co.* v. *Alliance Machine Co.,* 176 Fed. 100 (C. C. A. 6):

> "A patentee is entitled to have his patent considered with reference to an advantage over the prior art necessarily secured by the operation of the device as described, even though such advantage is not specifically claimed."

In *National Hollow Brake Beam Co., et al.* v. *Interchangeable Brake Beam Co.,* 106 Fed. 693, 709 (C. C. A. 8) Judge Sanborn said:

> "It is true that Hien did not describe or claim, and it is possible that he was not aware of, the utility of resilience in the beam when he procured his first patent; *but the law did not exact of him a statement or*

claim of the functions or uses of his combinations, and those uses and functions were not the subject of patent. He did describe and claim the means by which this resilience in the beam could be produced, maintained, and utilized, and this was all that was required of him by the statutes and the decisions. When this had been done, and a grant of the exclusive use of the combination he had thus claimed had been made to him, he had secured thereby a monopoly of all the uses to which that combination could be applied, whether he was aware of them or not. An inventor is not called upon to state in his specification or claims for a patent all the functions of his device, or all the uses to which his invention may be put. When he has plainly described and claimed his machine or combination, and has secured a patent for it, he has the right to every use to which his device can be applied, and to any way in which it can be utilized to perform its function, whether or not he was aware of all these uses or methods of use when he claimed and secured his monopoly. *Roberts* v. *Ryer,* 91 U. S. 150, 157, 23 L. Ed. 267; *Miller* v. *Manufacturing Co.,* 151 U. S. 186, 201, 14 Sup. Ct. 310, 38 L. Ed. 121; *Goshen Sweeper Co.* v. *Bissel Carpet Sweeper Co.,* 72 Fed. 67, 19 C. C. A. 13, 37 U. S. App. 555; *Frederick R. Stearns & Co.* v. *Russell,* 85 Fed. 218, 226, 29 C. C. A. 121, 129; *Manufacturing Co.* v. *Neal* (C. C.) 90 Fed. 725; *Tire Co.* v. *Lozier,* 90 Fed. 732, 744, 33 C. C. A. 255, 268."

See *Horton Mfg. Co.* v. *White Lily Mfg. Co.,* Court of Appeals for the seventh circuit (213 Fed. 471, 477).

In *Kuhlman Electric Co.* v. *General Electric Co.,* 147 Fed. 709 (C. C. A. 7), the Court of Appeals of that circuit, in sustaining the electrical transformer patent then before it, even though it did not state the principal advantages which reside in it, says (p. 712):

"Now though these advantages be different from the one chiefly in the patentee's mind, the invention will not on that account fail, if there be in the concept an actual advantage, and the structure embodying it evinces patentable invention; for a patentee is entitled, not only to what he specifically sees, but to what has been brought about by his invention, even though not at the time actually seen."

In *Angle Regulating Appliance Co. et al.* v. *Aderer* (C. C. N. Y.) 171 Fed. 93, the court, in holding the patent valid, owing to a novel result not set out in the specification, although inherent in the structure, says (p. 95):

> "This result is not set forth and is not claimed in the patent, but the form of apparatus which renders it possible is shown, and means by which the successful result is secured are disclosed; for which reasons it seems to me that the patentee is entitled to whatever benefit or advantage may accrue from this characteristic of his patented device, although not by him specifically set forth in his application. *Van Epps* v. *United Box Board & Paper Co.,* 143 Fed. 869, 75 C. C. A. 77."

In *Stilwell-Bierce & Smith-Vaile Co.* v. *Eufaula Cotton Oil Co. et al.,* 117 Fed. 410, 415 (C. C. A. 6), Judge, later Mr. Justice Day, in writing the opinion of the court, says:

> "An inventor is not required to describe in full all the beneficial functions to be performed by his machine. If the thing accomplished is a necessary consequence of the improvement made and described, making it obvious that the inventor intended the thing accomplished, though not specifically pointed out, he is entitled to the benefit thereof in construing his patent."

See, also:

Stromberg Motor Devices Co. v. *Zenith,* 254 Fed. 68, (C. C. A. 7).

THE CLAIMS OF A PATENT SHOULD BE CONSTRUED TO INCLUDE THE NOVEL FEATURES AND ADVANTAGES INHERENT IN THE INVENTION WHETHER SPECIFICALLY PRESCRIBED IN THE CLAIMS OR NOT.

In the case of *Waterloo Cement Machinery Corp.* v. *Engel,* 230 Fed. 169, *the trial court, in reading into the claims certain features so as to include within them* the important features of the invention in distinguishing them over the prior art, said at page 170:

> "According to the specification the supporting cross-

bar is provided with an upwardly projecting spindle so affixed as to make it a part of the crossbar. Neither of the claims in issue particularizes such feature, and the first question to be answered is whether the particular crossbar of the specification is included in the claims and protected by the patent. It is referred to in the specification with considerable detail, and stress is laid upon the manner of arranging the shaft in relation to the mixing tank and extending it into 'an integral upwardly extending sleeve 13 of the tank so as to provide an axle bearing for the tank, preventing the latter from swerving or tilting on its ball bearings.' The drawings quite clearly illustrate the details of construction of the crossbar, and, indeed, the feature of projecting the shaft into the tank was evidently regarded by the patentee as a highly important feature of the invention. To project the bearing into the tank, instead of projecting it outwardly from the bottom of the tank, as shown in prior patents in evidence, was conducive to a more even distribution of the load and a better balancing of it on the bearing shaft, and also to a more convenient use of the tank for mixing and discharging material. In my opinion the claims must be construed to cover the actual invention; that is, as if the claims had specified the crossbar or spindle as one projecting into the tank. Such a construction I believe is justified, even though the claims do not contain the words 'substantially as described.' *Mitchell* v. *Tilghman,* 19 Wall. 287, 22 L. Ed. 125.

"In *Fowler & Wolfe Mfg. Co.* v. *McCrum-Howell Co.* 215 Fed. 905, 132 C. C. A. 143, the Circuit Court of Appeals for this circuit had before it a somewhat similar question arising from the failure of the claim of the patent to specify the size of tubes for a radiator, and Judge Rogers, writing the opinion, said:

" 'We cannot understand why the court below should have reached the conclusion that an invention described in the specification, but not included in the "claims," cannot be protected by a patent. We regard the law as well established that the claims of a patent are to be construed in the light of the specification.'

"Giving effect to that decision requires reading into the claims in suit the particular bearing or crossbar described in the specification and drawings, notwith-

standing the fact that the claims on their faces are broader; and, when thus construed, the method of mounting the crossbar is unimportant, so long as it is supported by spindles which enable it to swerve or tip."

The Court of Appeals for the Second Circuit, in affirming this decision, 240 Fed. 976, at page 978, speaking through Circuit Judge Coxe, said:

"The construction placed upon the claims does not violate any rule of interpretation but simply gives the patentee the benefit of what he has actually invented. When the claim refers to 'a supporting crossbar connected at each end with the top of the standards,' it means the crossbar described and shown. It was not necessary to go into minute details in the claims themselves as to each of their separate elements. When the claims refer to a crossbar they mean a workable crossbar, the crossbar of the patent—the crossbar described and shown. Such a construction gives the complainant the advantages to which it is fairly entitled as the owner of the Snell patent. It is not essential that the claim shall describe in detail each element of the combination; it is enough if these details are shown in the description and drawings.

"Both of the claims in issue have as an element of the new combination described and shown 'a mixing-tank rotatably mounted on the crossbar.' These claims do not specify the precise means adopted to accomplish this result but the description and drawings plainly show the method used by the patentee which is novel and efficient. We see no reason why the patentee should not have the benefit of his new and valuable mixer even if its construction be not set out in detail in the claims themselves. Very properly the description may be referred to when considering the scope and meaning of the claims which were clearly intended to cover a rotatable mounting."

In *Horton Mfg. Co.* v. *White Lily Mfg. Co.* 213 Fed. 471, the Court of Appeals for the Seventh Circuit, in holding the patent there before it valid, by reading into the claims a certain new feature, which distinguished the pat-

entee's device over the prior art structures, said at page 476, speaking through Circuit Judge Kohlsaat:

> "Appellant insists that claims 2 and 4 in suit do not come within the construction herein given to the patent. Taken in connection with the drawings and specification, all four of the claims in suit call for a device in which the so-called line of cleavage, and cover freed from the burden of the operating mechanism, are essential elements. 'The object of the patent law,' says the Supreme Court in *Topliff* v. *Topliff,* 145 U. S. 171, 12 Sup. Ct. 831, 36 L. Ed. 658, 'is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute.' *While claims* 2 *and* 4 *do not in terms call for the pinion at the outer end of the drive-shaft and the segmental-rack on the level handle, those features may, for the purpose of restricting the claim so that it shall meet the requirements of the inventive idea, be gathered from the specification.* 'The subject is to be examined in the light of both specifications and of both sets of claims,' says the Supreme Court in *Klein* v. *Russell,* 19 Wall. 433-466, 22 L. Ed. 116, in speaking of the scope of the claim, and, proceeding, says: 'The Court should proceed in a liberal spirit, so as to sustain the patent and the construction claimed by the patentee himself, if this can be done consistently with the language which he has employed.'
>
> "The scope of a patent must be ascertained from the entire instrument. *Burke* v. *Partridge,* 58 N. H. 351. Though a claim may be illustrated it cannot be enlarged by the language of the specification. *R. R. Co.* v. *Mellon,* 104 U. S. 118, 26 L. Ed. 639; *Yale Lock Co.* v. *Greenleaf,* 117 U. S. 554, 6 Sup. Ct. 846, 29 L. Ed. 952; *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.* 210 U. S. 414, 28 Sup. Ct. 748, 52 L. Ed. 1122.
>
> " 'It is allowable,' says Judge Lowell in *Jones* v. *Barker* (C. C.), 11 Fed. 600, 'to construe the claims of a patent with reference to what has gone before, and to give the patentee the benefit of the restricted claim which results from such construction.' Thus it is apparent that, as stated by Walker on Patents, Sec. 185, 'when it becomes necessary to construe a claim narrowly in order that its novelty may not be nega-

tived by the prior art, or its validity otherwise overthrown, courts will give such a narrow construction, if they can do so consistently with the language of the claim and of the description.'

"From the whole patent. it is clear that, to make the claims 2 and 4 effective, the so-called line of cleavage, in applying the power to the stirrer-shaft, must *be preserved and therefore read into those claims.*

"Thus construed, and in view of the absence in the prior art and use of any device showing a wash tub having a cover freed from the weight of the impelling machinery and the so-called line of cleavage at the point where the power is applied to the drive-shaft, which carries the stirrer-shaft, and in view of the other novel features of the claims, we hold the patent to be valid."

In *Fowler & Wolfe Mfg. Co.* v. *McCrum-Howell Co.,* 215 Fed. 905, the Circuit Court of Appeals for the Second Circuit, in holding the patent there sued on valid by reading into the claims certain novel features not therein set forth, but which were disclosed in the drawings and described in the specification, in order to sustain the claims over the prior art, said at pages 909-910:

"We cannot understand why the court below should have reached the conclusion that an invention described in the specification but not included in the 'claims' cannot be protected by a patent. We regard the law as well established that the claims of a patent are to be construed in the light of the specification. It is quite true that the claims fix the extent of the protection furnished by the patent. *McClain* v. *Ortmayer,* 141 U. S. 419, 12 Sup. Ct. 76, 35 L. Ed. 800; *Sutter* v. *Robinson,* 119 U. S. 530, 7 Sup. Ct. 376, 30 L. Ed. 492; *Burns* v. *Meyer,* 100 U. S. 671, 25 L. Ed. 738. But it is equally true that the specification may be referred to for the purpose of limiting the claim although not available for expanding it. *McClain* v. *Ortmayer, supra. Dey-Time Register Co.* v. *W. H. Bundy Recording Co.* (C. C.), 169 Fed. 807, 813 (1909). In *Howe Machine Co.* v. *National Needle Co.,* 134 U. S. 388, 10 Sup. Ct. 570, 33 L. Ed. 963, Mr. Chief Justice Fuller, writing the opinion of the court, said:

" 'Doubtless a claim is to be construed in connection with the explanation contained in the specification and it may be so drawn as in effect to make the specification an essential part of it; but, since the inventor must particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery, the specification and drawings are usually looked at only for the purpose of better understanding the meaning of the claim, and certainly not for the purpose of changing it and making it different from what it is.'

"We recognize the full force and effect of this statement of the law and do not believe that we are going contrary to its true meaning in holding that there can be read into the claims in this suit the qualification found in the specification that the tubes D are smaller than the others. By reading this qualification into the claims, they are made narrower and not broader.

"In *Duncan* v. *Stockham,* 204 Fed. 781, 123 C. C. A. 133 (1912), the court in the Seventh Circuit said:

" 'The claim in suit does not name all the various means shown in the specifications and drawings for connection of the means or elements named therein to make them operative in the combination; but we believe the claim is, nevertheless, sufficient for enforcement, on reference to the specifications. It is to be interpreted to include such connections and relations of the several means of the combination which are named, as implied therewith to make them operative, in conformity with the specifications.'

"In *Consolidated Roller Mill Co.* v. *Walker,* 138 U. S. 124, 11 Sup. Ct. 292, 34 L. Ed. 920 (1890), the Supreme Court declared it saw no reason to doubt the correctness of the following statement made by the court below:

" 'To understand the nature of the invention intended to be covered by the first claim, resort must be had to the specification, and we there find that the "swivel boxes" are essential to the contemplated greater movement at one end of the shaft than at the other, whereby is effected "the tightening of the belt or belts at one side of the machine, without disturbing those at the other." This is apparent on the face of the paragraph hereinbefore quoted at length; and the expert testimony is direct and convincing, that, to

the practical working of the described device as a belt tightener, this swiveling feature is indispensable. Without the swiveled boxes Gray would not have "independently adjustable bearings." True, those boxes are not expressly mentioned in the claim, but we think they are to be regarded as entering therein by necessary implication, for the reason just stated, as well as by force of the words "as shown." Moreover, the prior state of the art would limit the claim to the specific organization shown and described.'

"*So in a number of cases the Supreme Court has sustained the validity of a patent which otherwise might have been invalid by importing into the claim the particulars of the specification.* See *Seymour* v. *Osborne,* 11 Wall. 516, 547, 20 L. Ed. 33 (1870); *The Corn Planter Patent,* 23 Wall. 181, 218, 23 L. Ed. 161 (1874); *Westinghouse* v. *Boyden Power Brake Co.,* 170 U. S. 537, 558, 18 Sup. Ct. 707, 42 L. Ed. 1136 (1897); *Carnegie Steel Co.* v. *Cambria Iron Co.,* 185 U. S. 403, 432, 22 Sup. Ct. 698, 46 L. Ed. 968 (1901)."

In *Rubber Company* v. *Goodyear,* 9 Wall. 788, 795, 19 L. Ed. 566, it was said:

"A patent should be construed in a liberal spirit, to sustain the just claims of the inventor. This principle is not to be carried so far as to exclude what is in it, or to interpolate anything which it does not contain. But liberality, rather than strictness, should prevail where the fate of the patent is involved, and the question to be decided is whether the inventor shall hold or lose the fruits of his genius and his labors."

See also:

Century Electric Co. v. *Westinghouse,* 191 Fed. 350 (C. C. A. 8).

THE FACT THAT THE PARTICULAR FORM OF THE PARKER INVENTION SHOWN IN HIS DIAGRAM WAS NOT THE FORM USED COMMERCIALLY BY THE PLAINTIFF AND DEFENDANTS IS IN NO WAY PREJUDICIAL TO THE PARKER PATENT OR THAT IT WAS NOT PUT ON THE MARKET BY THE PATENTEE, PARKER, AVAILS NOTHING TO THE DEFENDANTS.

In *Troy Carriage Co.* v. *Kinsey Mfg. Co.* 247 Fed. 672, Circuit Court of Appeals for the Sixth Circuit, Circuit Judge Denison said (p. 676):

> "If, as is held in the *Paper Bag Case,* 210 U. S. 405, 28 Sup. Ct. 748, 52 L. Ed. 1122, a patent is not to be denied its reasonable and apparent validity and scope merely because its owner had deliberately withheld it from commercial use, much less can such denial be claimed where the first owner, for unknown reasons, did not get it into public use, but where the second owner has put it into very general use. The fact that the second owner discovered the patent in the Patent Office, and made the first move to buy it, and bought it for a small price, cannot be of much, if any, importance. The patent must stand or fall on its own merits."

In *Hildreth* v. *Mastoras,* 257 U. S. 27, the Supreme Court in speaking through the late Chief Justice Taft in holding the patent there involved valid and infringed and disposing of defendant's contention of inoperativeness and the argument that the particular form shown in the patent there sued on was never used commercially, said at page 34:

> "It is not necessary, in order to sustain a generic patent, to show that the device is a commercial success. The machine patented may be imperfect in its operation; but if it embodies the generic principle, and works, that is, if it actually and mechanically performs, though only in a crude way, the important function by which it makes the substantial change claimed for it in the art, it is enough. *Telephone cases,* 126 U. S. 1, 535; *Mergenthaler Linotype Co.* v. *Press Publishing Co.,* 57 Fed. 502, 505."

PRIOR ART IMPOSES NO LIMITATION ON THE PARKER INVENTION.

> "Has the patentee added anything of value to the sum of human knowledge, has he made the world's work easier, cheaper and safer, would the return to the prior art be a retrogression? When the court has answered this question, or these questions, in the affirmative, the effort should be to give the inventor the just reward of the contribution he has made. The effort should increase in proportion as the contribution is valuable. Where the court has to deal with a device which has achieved undisputed success and accomplishes a result never attained before, which is new, useful and in large demand, it is generally safe to conclude that the man who made it is an inventor.
>
> * * * * *
>
> The keynote of all the decisions is the extent of the benefit conferred upon mankind. Where the court has determined that this benefit is valuable and extensive it will, we think, be difficult to find a well considered case where the patent has been overthrown on the ground of nonpatentability." (O'Rourke Engineering Const. Co. v. McMullen, 160 Fed. 933, 938, 939, Circuit Judges Lacombe, Coxe and Ward.)

On the issue of validity and scope of the Parker patent we should first inquire whether the concept on which it was granted is novel and involves invention. The Parker pioneer concept falls within that class of pioneer inventions whose novelty depends largely on a new method of operation rather than on particular circuits, switches and buttons utilized in combination to give physical expression to that conception.

In *Burdett-Rowntree* v. *Standard Plunger Co.*, 196 Fed. 43, (C. C. Pa.) District Judge McPherson in sustaining the Rowntree patent, the novelty of the claims asserted residing primarily in controls for electric elevators, one of which claims reads:

> "In an automatic elevator, a hoisting mechanism, means for controlling the same, said means operating

> to start the car and to arrest it automatically at any predetermined landing, a push-button for each floor at which the car is to stop, a circuit for each push-button, and a signal, actuated by the operation of each push-button, for signifying in advance of the starting of the car the floor at which the car is desired to stop, as and for the purpose set forth."

said at page 46:

> "Every element is old, and the defendant contends that no invention can possibly be involved in arranging old and well-known signals in close and convenient proximity to an old and well-known motor. * * * While it is not a tangible product that has been improved, *the new method of operation produces a clearly perceptible advance in the art.*"

This decision was affirmed by the Court of Appeals for the Third Circuit, 197 Fed. 743 (Circuit Judges Gray and Buffington and District Judge Bradford), the court saying p. 744:

> "The opinion of the learned judge in that court is satisfactory to us in both its reasoning and its conclusions and we adopt it as the opinion of this court."

The Circuit Court of Appeals for the Third Circuit has repeatedly quoted with approval from this decision. See for example, *Mead-Morrison Mfg. Co.* v. *Exeter Mach. Works,* 225 Fed. 489, 496. Likewise the Court of Appeals for this and other circuits has cited the Rowntree case with approval, see, for example, *Willard* v. *Union Tool Co.,* 253 Fed. 48 at 53, 54 (C. C. A. 9).

A patented invention is a mental concept. The machine, process or product is but its material reflex and embodiment.

In *H. E. White Co.* v. *Morton E. Converse & Son Co.,* 20 F. (2d) 311 (C. C. A. 2), the court in holding the patent there involved valid and infringed, said speaking through Judge Learned Hand (p. 313):

> "While the statute grants monopolies only for new structures, and not for new uses, invention is not to

be gauged by the necessary physical changes, so long as there are some, but by the *directing conception which alone can beget them.*'' Citing authorities.

In a previous case, *Traitel Marble Co.* v. *Hungerford Brass & Copper Co.,* 18 F. (2d) 66, the same court, Manton, Hand and Swan, Circuit Judges, in sustaining the Calkins patent said (p. 68):

> ''Assuming, for argument, that the law is absolute that there can be no patent for the new use of an old thing, that is because the statute allows no monopolies merely for ideas or discoveries. If the thing itself be new, very slight structural changes may be enough to support a patent, when they presuppose a use not discoverable without inventive imagination. We are to judge such devices, not by the mere innovation in their form or material, but by the purpose which dictated them and discovered their function. Certainly the art would have waited indefinitely, in the light of all that McKnight disclosed for Calkins' contribution to its advance. It will not serve now to observe how easy it was, given the suggestion, to change his invention into that of the patent in suit.''

See, also:

National Cash Register Co. v. *Boston Cash Indicator Co.,* 156 U. S. 502, 514.

There is no prior art which requires any limitation whatever to be placed upon the language of the claims in suit.

Parker was a *pioneer.* He brought into existence an entirely novel ''Control'' for electric elevators.

The Master, who had the Parker invention fully explained to him by the inventor, plaintiff's engineer, Mr. Crabbe, and other witnesses, fully appreciated how the problem solved by Parker had long eluded the search of elevator engineers; how it was projected into a very highly developed art by Parker, a non-member of the elevator industry; and how once appreciated by plaintiff's engineers,

it was embodied in the Otis "Signal Control" elevators, the success of which (R. 565):

> "is due, in large measure to those features that resulted from Parker's disclosure."

The most pertinent art relied upon by the defendants is a far cry from anything that corresponds to the Parker invention. Nothing in the art would accomplish the Parker results nor attain his objects.

THE CLOSEST REFERENCE (THE IHLDER PATENT OF 1902) NEITHER MEETS THE PARKER CLAIMS NOR DOES IT EVEN SUGGEST HIS INVENTIVE CONCEPT. ITS OPERATION IS DIAMETRICALLY OPPOSED TO THAT OF PARKER.

The Parker patent claims are entitled to a liberal interpretation. They clearly include defendants' "Automatic Stopping Control."

The Master finds (R. 560) that the Ihlder patent (R. Vol. 3, 369) *"is the closest reference,"* but realizing and appreciating the Parker invention and what it had accomplished, he was enabled to and did clearly show that it neither embodied nor approached the Parker invention, nor secured its results nor attained its objects. It was with this in mind that he pays the high tribute to Parker already set out. He says of the Ihlder patent (R. 560):

> "It shows a control for an electric elevator which includes means for automatically stopping the car at a previously designated floor. *Push buttons* are provided at the landings and in the car, the *operation of any one of which* sets up a circuit which *starts and maintains* the car running, and a second circuit which, through a selector, brings the car to a stop at the desired floor by breaking the running circuit through the motor. *The control can be used only to move the car to one floor and stop it.* It cannot be operated to stop at successive floors *nor stopped by a waiting passenger while it is in motion.*
>
> " 'Again the system is non-interfering, in that when a push button at one floor has been pressed the pres-

sure of any push button at other floors will not interfere with the operation of the elevator.' Page 1, lines 56 to 60, Ihlder Patent.

"*One of the principal features of the patent in suit* is that it provides a means whereby a passenger can stop the car and enter it *after it has been started by the operator*. The Ihlder control provides means for *starting the car from a landing*, a feature that would be undesirable in Parker's control. Ihlder does show a floor selector much the same in principle as Parker's The differences in function pointed out result from differences in structure. *There is no holding circuit in Ihlder which can be broken by any stopping circuit set up either in the car or at the landings.* The *running circuit* once established *can be broken only by one stopping circuit*, the selection of which is made when the car is started."

This statement of the Master is also confirmed by the testimony of defendants' expert, Mr. Doble, on cross-examination (R. 487-488).

In the Ihlder construction, instead of there being *only one control means* for causing the *starting* of the car, *there are as many control means as there are push buttons* in the car and push buttons on the landings, *all of them being used for starting the car.*

In the Ihlder construction there is a series of *push buttons* for *starting* the car from the inside of the car, and there are *hall push buttons for starting* the car and calling the car to each landing. Hence if there were fifteen floors served by the Ihlder construction, there would be at least *thirty buttons*, fifteen in the car and fifteen at the landings, *from which the car could be started.* After the car has been started by a person pushing a button at a landing, it cannot then be stopped from any other landing.

In the Ihlder patent there is no selective means, comprising manually operable circuit closers to be actuated prior to the arrival of the car at selected stopping points,

and there is no automatic circuit closer actuated upon the arrival of the body (the car) at said selected stopping point for the purpose of stopping the car.

The Ihlder patent has none of the elements of the Parker patent in suit when the electrical connections of the switches involved are considered, so that the circuits and mechanisms which go to make up the Parker combination are entirely lacking from the Ihlder patent.

The lower court after having given (R. 644)—

> "more study in fact than I have found necessary to devote to any case presented during my experience on the bench."

also selects from the prior art set up by the defendants, the same Ihlder patent above discussed as the basis for his being (R. 638)—

> "totally unable to agree with the master"

on the question of infringement. His discussion of the Ihlder patent shows that he entirely failed to appreciate the Parker invention, and on the contrary that he completely misunderstood it, for immediately after quoting from the Parker patent, he refers to the drawings as showing (R. 636)—

> "*means through electrical circuits* whereby, *by the operation of the push buttons,* the *power* of the *hoisting motor* would be *applied.*"

and again, in referring to the elements of the Parker patent separately, he refers (R. 638) to the use of *push buttons* at the floors or in the car which would operate through electrical magnets to *connect* the current feeding the hoisting motor. In other words, while quoting from the Parker patent, he reads the Parker disclosure as contemplating the use of *push buttons* located both in the car and at the landings *for starting the car.*

His statements concerning the *starting of the car by push buttons in the car and at the landings* are entirely opposed

to the disclosure of the Parker patent, and would completely defeat its purpose of *starting* the car—

> "either up or down in the shaft * * * *entirely* and *singly* within the *manual control of the car operator,*" and not from push buttons at landings.

His misconception of the Parker invention thus causes him to draw an erroneous analogy between the Parker invention and the old fashioned push button elevators, where the car was generally started by a passenger pushing a button in the car, and which carried the passenger to the landing for which the button was pushed, and where also the car was started and brought to a given landing to pick up a passenger by his pushing of a button at the landing where he was standing.

In the use of these old fashioned push button elevators, once a button had been pushed in the car for a certain landing, the car was carried to that landing and stopped at it, and all passengers at any other landing had to wait until that run was completed.

Anyone having the slightest concept of elevator practice must realize that such a construction and operation would entirely defeat the very objects of the Parker invention, and would defeat its use, in operator controlled elevators used in modern office buildings.

Although the Otis Elevator Company had been making push button elevators for years prior to the Parker invention for dwellings and small apartments, the constructions used in their operation suggested nothing whatever to them with respect to the "Control" for electric elevators of the Parker patent, which so controlled the rest of the elevator mechanism that the car had to be started *entirely* and *singly* by the operator throwing a car switch in the car to "on" position, and that caused the car to be automatically stopped at any number of selected floors in proper sequence by the setting up and operation of a secondary circuit

through push buttons in the car and at the various landings.

That the lower court, having held the Parker patent valid, disagreed with the Master and unwarrantably limited its claims in suit beyond their plain language is clear—

(1) Because he failed to appreciate the Parker invention; and

(2) Because of his attempted analogy to the control of push button elevators to it when there is none.

This is shown by his statements where he speaks of the (R. 636)—

> "means through electrical circuits *whereby, by operation of the push buttons,* the *power of the hoisting motor would be applied,*"

(*i. e.,* the elevator started), and where he refers to the car being started and run by the use of *push buttons* at the floors or in the car which would operate *to connect the current feeding the hoisting motor,* and of electrically controlled elevators such as are common in apartment houses and some business buildings, whereby, by *means of push buttons* at floor landings and in the car, the elevator can be *started* and will be stopped automatically.

His comment concerning the Ihlder patent, evidently taken from the Master's report as to that system not being non-interfering, and his statement that Ihlder had (R. 639)—

> "the particular purpose of making his non-interferring, but as defendants' counsel argues, the mechanism of Ihlder's system might easily be adjusted, using ordinary engineering skill, so as to be either 'interferring' or 'non-interferring' "

demonstrates his lack of appreciation of the record, which shows conclusively that although skilled elevator engineers were familiar with similar push button constructions, these had nothing which enabled engineers to solve the problem solved by Parker, a non-member of the elevator industry.

Moreover, the lower court does not suggest any plan or scheme of making the Ihlder construction non-interfering, and if it was made non-interfering, this would defeat the whole purpose of the Ihlder disclosure, as it is exactly what Ihlder does not want, for with such arrangement the elevator could be taken away from the passenger using it by some other waiting passenger.

Even if the Ihlder circuits could be made non-interfering (although there never were), it would be a wide departure from the Parker disclosure because the objectionable features overcome by Parker would still remain, whereby any waiting passenger on any landing could start and bring the elevator to a landing instead of being started only by the car operator *entirely* and singly within the car, as Parker so fully discloses.

In addition to this, the Ihlder construction would run by every landing at which passengers were waiting except the one to which it was going in response to a button pushed in the car or to which it was coming in response to a hall button pushed by a passenger standing at a given floor.

One of Parker's primary purposes *was to prevent the car being started by a person at any landing or by anyone other than the car operator within the car,* and as that is plainly set out in the Parker disclosure, it is inherent in his invention and every claim must be read with that purpose in mind. This clearly excludes such structures as Ihlder from consideration as having any bearing on the Parker invention. The Ihlder 1902 patent serves only to magnify the Parker invention and what it accomplished.

If, as the lower court suggests, ordinary engineering skill could have rendered the Ihlder circuits either interfering or non-interfering, why was this not done?

Even if some engineer had done this, he would have completely defeated the stated purpose and objects of the

Ihlder patent, and would have been led still further away from the Parker inventive concept than the Ihlder patent showing, and would still have in such construction the very features which would defeat the purpose Parker accomplishes, and retain those very features which he found so objectionable in elevator practice. Defendants are free to use the Ihlder patented structure as the patent expired more than thirteen years ago. Why didn't they use it instead of appropriating the Parker invention?

The lower court, having referred to the Ihlder patent and using it for his unwarranted analogy to the Parker invention, disposes of the other art by saying (R. 639):

> "It would only serve to prolong this opinion to unnecessary length were I to discuss and analyze the several prior art patents which were introduced in evidence, all referring to systems for the *starting* and stopping of elevator cars *by electrical means, including the use of push buttons* at the floors and in the car,"

again demonstrating his fundamental error.

And to the statement—

> "As to the form and mode of operation of the devices represented, there is no dispute"

he might well have added, as did the Master, that none of these showed any structure which would attain the results accomplished by the use of the Parker invention.

The above discussion of the lack of analogy between the push button systems of Ihlder and others, wherein means were provided for starting the car from various landings and in which none of the results of the Parker patent could be secured, amply shows that the Master was right in his conclusion that (R. 674)

> "the invention, judged by the results, is a radical step forward. Parker is entitled to high standing for the inventive thought expressed in his patent."

This finding of the Master is amply supported not only from plaintiff's testimony, but from that of defendants'

own electrical engineer and witness, Mr. DeCamp, who shows, that previous to October, 1925, which was after the issue of the Parker original patent, and after the Otis Elevator Company's "Signal Control" elevators had been installed at the Standard Oil Building in New York and the Pacific Telephone & Telegraph Building in San Francisco utilizing this invention, he had (R. 399)—

> "never seen any drawings or descriptions of any devices of elevators which were *started only* by an operator operating a switch *within the car* and which could be automatically stopped either by pushing buttons within the car or from the landing, and the *starting could not be done from the push buttons.* I had never heard of anything like it."

He also testified (R. 397) that the defendants use a structure that will accomplish just this result in the Pacific Finance installation by stating that when the car is started by the operator moving a switch to the "up" direction, and when the car switch is thrown to this position, this completes—

> "the circuit which causes the elevator motor to be driven in the up direction."
>
> "The pushing of a button in the car or the pushing of a button at a landing causes the car ultimately, through the various chain of mechanism and wiring that I have described, to automatically stop at any given landing."

The Master fully appreciated that the defendants were attempting to interject into the case through their witness DeCamp, a lot of unnecessary details so far as the question of invention and infringement of the patent is concerned, and focused the issue by a series of questions (R. 351, *et seq.*).

The Master makes clear the rule which has been frequently enunciated by this Court. (*Stebler* v. *Riverside,* 205 Fed. 735, C. C. A. 9.) He says (R. 199)—"It is not a question * * * as to whether the Parker patent includes the features of the Standard Oil installation. The question

is *whether the Standard Oil installation includes the features of the Parker Patent.*"

There is nothing in the Ihlder patent that suggests the Parker invention. It suggested nothing to skilled engineers during the entire period of twenty years of its existence prior to the Parker invention which enabled a solution of the troublesome problem solved by Parker.

Its construction and operation do not meet any of the Parker claims here asserted. Its operation is diametrically opposed to the Parker concept and cannot accomplish the Parker results.

The defendants, having appropriated the Parker "Control," cannot escape the clear infringement of the Parker claims through any such disclosure as Ihlder or any other art. *Kings County Raisin & Fruit Co.* v. *U. S. Consolidated Seeded Raisin Co.*, 182 Fed. 59.

The "closest reference" (Ihlder) as well as the other art set up by defendants, augment the Parker invention and requires a liberal, instead of a restricted, interpretation of his claims.

Had the lower court understood the Parker invention; had he appreciated that it solved a problem neither contemplated nor attained by anyone else in the art; and had he not made an entirely erroneous comparison between the construction of the Parker and Ihlder patents (the latter showing nothing corresponding to Parker) he undoubtedly would have agreed with the Master and held the Parker claims infringed, for he says (R. 637):

> "If no such means of electrical control had theretofore existed and Parker had, for the first time, designed a system which supplied a new and highly desirable form long looked for by the manufacturers of elevators, the claim of primary and pioneer invention might be well predicated."

The record conclusively shows, as the Master found from

the testimony of witnesses who appeared before him, that previous to the Parker invention no such "Control" for electric elevators existed (R. 561, 565, 567, 569, 574), and that Parker devised an entirely new system and means of "Control" which supplied a new and highly desirable form and result long looked for by manufacturers of elevators, and solved the problem which elevator engineers, with full knowledge of the art, had failed to solve. (R. 574.)

THE CLAIMS OF THE PARKER PATENT HERE ASSERTED ARE PLAINLY DIRECTED TO STRUCTURAL COMBINATIONS AND NOT MERE FUNCTIONS.

The weakness of defendants' attack, in the lower court, on plaintiff's patent is amply demonstrated by their contention that the claims are invalid because drawn for *mere functions* of an apparatus.

The claims should, under the authorities, be construed in connection with the disclosure of what Parker sought to and did accomplish and not as mere abstract language.

Thus construed the essence of all these claims, as clearly and definitely brought out in each of them, is the combination of physical things, namely, circuits and switches so arranged that when the operator moves the car switch within the car to on position an electrical circuit is completed, for driving this elevator motor, and maintained, in combination with secondary circuits and switches, which circuits, when initiated from within the car or the landings, are automatically afterwards completed for initiating, and ultimately, stopping the car.

No attack can successfully be made on any of the claims on the ground that they cover *only mere* functions.

The courts have repeatedly and uniformly sustained claims of the same general character where the function of

the elements is included in the claims, over attacks made on such claims on the ground of being functional.

It has been repeatedly held not only in numerous recent decisions of the Supreme Court but continuously, that statements which contain functions, results accomplished or purposes to be served are properly included in patent claims as a means for defining the operation of the mechanism. Each of the statements in the claims of the Parker patent are properly drawn, have been approved by the Patent Office as proper and are clearly so under the statutes and the authorities. (See cases, *infra.*)

That the claims are directed to true structural combinations having certain characteristics and features co-operating one with another is shown by the preceding, as well as the following analysis of claims 3 and 22.

Claim 3 of the Parker patent comprises in combination—

(1) **a guided movable body.**

This is the elevator car.

(2) **an electrical controlling circuit.**

This is the starting and running circuit which is completed upon the manual operation of the car switch to cause power to be applied to the elevator motor to start and run the car.

(3) **a switch on said body manually operable for closing said circuit.**

This is the car switch in the Parker patent located within the elevator car.

(4) **means holding said switch in circuit closing position.**

This is the circuit and mechanism which maintains the "electrical controlling circuit" closed independent of the car switch, and therefore maintains the direction switch in operative condition, permitting the return of the car switch operating handle to "off" position without interrupting the running of the car.

(5) **selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel, said selective means comprising a manually operable circuit**

closer to be actuated prior to the arrival of the body at a selected stopping point and an automatic circuit closer actuated upon the arrival of the body at said selected stopping point.

This element of the claim includes the push buttons in the car or the push buttons at the floors, and the various switches, circuits and mechanisms which act automatically to cause the stopping of the car at any floor for which, in the case of car buttons, a button in the car has been pressed, or in the case of hall buttons, at which a button in the hall has been pressed. The push buttons control circuits which are completed as the car approaches the floors for which the buttons are provided. The completion of these circuits accomplishes two results, (a) the initiation of the stopping of the car which is brought to rest level with the floors for which buttons are provided; and (b) the release of the holding means whereby the car switch must be operated again to start the car after each stop.

Claim 22 defines a control system for an elevator car, comprising in combination—

(1) **a plurality of control means, one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated.**

This element of the claim includes the push buttons at the landings, switching mechanism controlled by car movement, circuits, switches and other apparatus which are controlled by the push buttons and by this mechanism, whereby the car is automatically brought to a stop at landings at which push buttons have been pressed. "Operable from without the car", as specified in this claim, means that the push buttons, included as a part of this portion of the claim, are located at the landings.

(2) **only one control means for causing the starting of the car, said one control means being operable only from within the car.**

This is the control means by which alone the circuit to start the car is completed. When the car switch handle, which is a part of this means, is thrown to "on" position, the electrical controlling circuit for starting and running the car is completed, and is automatically maintained after the car switch handle is

moved to "off" position, so that the car will continue to run until automatically stopped by a secondary controlling means in response to buttons pushed either in the car or at the landings.

This claim, as all others, must be read in view of the stated purpose of Parker's "Control." It covers the combination of elements disclosed and described whereby the car is started by a single "Control" means operable only from within the car, and automatically caused to stop upon the pressing of any one of a plurality of push buttons which sets up a circuit, which when completed by the selector, will cause the car to slow down and stop. *It is of vital necessity, in order to accomplish the results of the Parker invention, that the starting and stopping circuits be so co-related as to so function at the proper time in relation to each other.*

These circuits are thus arranged in defendants' installation.

By reading the other claims here asserted in the light of the specification and drawings, as they should be read, it at once becomes clear that no attack can successfully be made on these claims on the ground that they cover *only mere* functions.

CASES SHOWING THE PROPRIETY OF THE FORM OF CLAIMS USED IN THE PARKER PATENT.

To illustrate this, some of the more pertinent claims under consideration by the Supreme and other courts, will be discussed, so that this Court may see by comparing the so-called functional statements with similar statements in claims approved by the courts how highly proper and desirable such statements are for the proper protection of the patentee and the public.

In the recent case of *Eibel Process Company* v. *Minne-*

sota & Ontario Paper Company, 261 U. S. 45, the Supreme Court had before it the Eibel Patent No. 845,224,

> "For an improvement on Fourdrinier paper-making machines, whereby, mainly through a substantial elevation of the breast-roll end of the moving screen or 'paper-making wire', the liquid stock discharged upon the screen acquires through gravity an additional speed, enabling it to keep pace with the screen at the critical paper-forming point, thus avoiding injurious disturbances of the stock when the screen moves very rapidly, and making possible a much speedier production of good paper than was theretofore obtained from the machines without the improvement."

This was held by the Supreme Court, through the opinion of the late Chief Justice Taft, to properly cover a new and useful invention.

Among the six claims asserted and considered by the court was claim 12, which reads as follows (p. 70):

> "12. In a Fourdrinier machine, a downwardly-moving paper-making wire, *the declination and speed of which are so regulated that the velocity of the stock down the declining wire, caused by gravity, is so related to the velocity of the wire in the same direction, that waves and ripples on the stock are substantially avoided and the fibers deposited with substantial uniformity on the wire,* substantially as described."

In considering this claim and in holding it valid, the late Chief Justice Taft says (p. 71):

> "This comes nearer to being a process claim but whether it is or not the defendant infringes it."

In this *Eibel Co.* v. *Paper Co.* case the only element positively included was a downwardly-moving paper-making wire in a Fourdrinier machine. All of the rest of the claims related to the regulation of the declination and speed of this paper-making wire, by which the waves and ripples on the stock are substantially avoided and the fibres deposited with substantial uniformity on the wire.

Certainly, if the various claims of the Eibel patent sus-

tained by the Supreme Court in this case are proper and valid claims, there cannot be the slightest doubt about the propriety of all of the expressions in each of the claims of the Parker patent.

In *Hildreth* v. *Mastoras,* 257 U. S. 27, the Dickinson patent for a candy-pulling machine was involved. The late Chief Justice Taft writing the opinion of the court and sustaining Dickinson's claim, again approved claims containing just such statements as are in the Parker patent. The claim there involved reads (p. 32):

> "A candy-pulling machine comprising a plurality of oppositely-disposed candy hooks or supports, a candy-puller, *and means for producing a specified relative in-and-out motion of these parts for the purpose set forth.*"

The italicized portion of this claim certainly contains a statement of the results accomplished, purposes to be served, or function, quite as much as the Parker claims.

The Supreme Court held the machine patented as embodying (p. 34)—

> "the generic principle, and works, that is, if it actually and mechanically performs, though only in a crude way, the important function by which it makes the substantial change claimed for it in the art,"

and that it was, *therefore, a pioneer.* Citing *Telephone Cases,* 126 U. S. 1, 535; *Mergenthaler Linotype Co.* v. *Press Publishing Co.,* 57 Fed. 502, 505.

In *Abercrombie & Fitch Company, et al.* v. *Baldwin, et al,.* 245 U. S. 198, the Baldwin Reissue Patent No. 13,542, was before the court. The court states the purposes and functions of the patent:

> "The patent relates to an acetylene gas generating lamp, with an upper reservoir for water and a lower receptacle for calcium carbide, connected by a tube, with a rod extending through the tube and subject to manipulation from above. The inventive features involved lie in securing a proper flow of the water through the tube and access for it to the unslaked car-

bide, the first, by adopting a comparatively large tube with a size of rod suitably restricting its capacity; the second, by manipulating the rod when necessary to break up slaked carbide at the mouth of the tube in the lower receptable."

and specifically referring to two of the claims holds them valid and infringed, notwithstanding the fact that each of these claims defines the functional purpose of the rod as "operating to restrict and thus control the flow of water to the carbide."

Claim 4 reads as follows (p. 205):

"4. In a lamp of the kind described, the combination with a water-reservoir, and a receptacle for calcium carbid, of a water-tube extending from the former a considerable distance into the latter and adapted to be embedded in the mass of carbid in the receptable, and a rod extending through the water-tube, and constituting a stirrer to break up slaked carbid around the outlet of the water-tube, *the rod operating to restrict and thus control the flow of water to the carbide,* as set forth."

The italicized portion was italicized in the Supreme Court opinion.

The court held that the controversy mainly centered

"in the water-feeding duct or tube and its restriction by means of a wire or rod and the shape and use of the rod *to pierce or stir the carbide.*"

An examination of the other claims shows similar statements.

In *Cimiotti Unhairing Company* v. *American Fur Refining Company,* 198 U. S. 399, which the Supreme Court cites in the paper bag case above referred to, the court approves the following claim, which contains statements showing the purposes to be served or the results accomplished, and shows that such statements are not functional in the way in which they are sometimes interpreted when functional statements have been held to be objectionable.

"8. The combination of a fixed stretcher-bar, means

for intermittingly feeding the skin over the same, a stationary card above the stretcher-bar, a rotary separating-brush below the same, and mechanism, substantially as described, *whereby the rotary brush is moved upward and forward into a position in front of the stretcher-bar,* substantially as set forth." (p. 409.)

The court after approving this claim says (p. 410):

"In making his claim the inventor is at liberty to choose his own form of expression, and while the courts may construe the same in view of the specifications and the state of the art, they may not add to or detract from the claim."

In *Keystone Manufacturing Company* v. *Adams,* 151 U. S. 139, the Supreme Court in sustaining the Adams patent of October 15, 1872, for an improved corn-sheller, again approves just such statements and claims as are here criticized.

The claim there before the court read (p. 142):

"The combination with a cornsheller of a series of wings, wheels, or projections, *so arranged on a shaft as to revolve in the same direction which the corn is running, and so placed relative to the throat as to force into the machine all misplaced or hesitating ears,* substantially as specified."

In *Expanded Metal Company* v. *Bradford,* 214 U. S. 366, the single claim of the Golding patent of October 9, 1894, for an expanded sheet metal, read as follows (p. 377):

"The herein described method of making open or reticulated metal work, which consists in simultaneously slitting and bending portions of a plate or sheet of metal *in such manner as to stretch or elongate the bars* connecting the slit portions and body of the sheet or *plate,* and then similarly slitting and bending in places alternate to the first-mentioned portions, *thus producing the finished expanded sheet metal of the same length as that of the original sheet or plate,* substantially as described."

The court in approving this claim says (p. 377):

"It is thus apparent that the method covered by the

claim of the patent is accomplished by the two operations indicated and performed in the manner pointed out in the specifications."

(p. 379.) "But the patent in suit, embraced in the claim allowed, shows more than a mere method of making open meshes by simultaneously cutting and stretching the metal. It shows a method by which the metal is first cut and stretched in the manner indicated to make the half diamond, and then a second operation, coordinating with the first and completing the mesh by the manner in which it is performed in connection with the first. It is the result of the two operations combined which produces the new and useful result covered by the claim allowed in the Patent Office, and, which, when read in connection with the specifications, shows substantial improvement in the art of making expanded metal work."

The court further says (p. 381):

"The important thing in this patent is a method of procedure, not the particular means by which the method shall be practiced."

In *Morley Sewing Machine Co.* v. *Lancaster,* 129 U. S. 263 (1889), claims of this type were upheld by the Supreme Court reversing the decree of the Massachusetts Circuit Court. Claim 1 is representative and is as follows (p. 266):

"The combination, in a machine for sewing shank-buttons to fabrics, of button-feeding mechanism, appliances for passing a thread through the eye of the buttons and locking the loop to the fabric, and feeding mechanism, substantially as set forth."

The court said at pages 283 and 284:

"Applying these views to the case in hand, Morley having been the first inventor of an automatic button-sewing machine, by uniting in one organization mechanism for feeding buttons from a mass, and delivering them one by one to sewing mechanism and to the fabric to which they are to be secured, and sewing mechanism for passing a thread through the eye of the button, and securing it to the fabric, and feeding mechanism for moving the fabric the required dis-

tances to space the buttons, another machine is an infringement, in which such three sets of mechanism are combined, provided each mechanism, individually considered, is a proper equivalent for the corresponding mechanism in the Morley patent; and it makes no difference that, in the infringing machine, the button-feeding mechanism is more simple, and the sewing mechanism and the mechanism for feeding the fabric are different in mechanical construction, so long as they perform each the same function as the corresponding mechanism in the Morley machine, in substantially the same way, and are combined to produce the same result."

The court said further at page 286:

"Those claims are not for a result or effect, irrespective of the means by which the effect is accomplished. It is open to a subsequent inventor to accomplish the same result, if he can, by substantially different means. The effect of the rule before laid down is merely to require that, in determining whether the means employed in the Lancaster machine are substantially the same means as those employed in the Morley machine, the Morley patent is to receive a liberal construction, in view of the fact that he was a pioneer in the construction of an automatic button-sewing machine, and that his patent, especially in view of the character and terms of the four claims in question, is not to be limited to the particular devices or instrumentalities described by him, used in the three main elements of his machine, which, combined together, make it up. This is the principle applied by this court in *Consolidated Valve Co.* v. *Crosby Valve Co.,* 113 U. S. 157."

In *Paper Bag Patent Case,* 210 U. S. 405 (1908), the claims involved were the first, second and seventh, of which the first is representative and is as follows (p. 417):

"'In a paper bag machine, the combination of a rotating cylinder provided with one or more pairs of side forming fingers adapted to be moved toward or from each other, a forming plate also provided with side forming fingers adapted to be moved toward or from each other, means for operating said fingers at definite times during the formative action upon the bag

tube, operating means for the forming plate adapted to cause the said plate to oscillate about its rear edge upon the surface of the cylinder during the rotary movement of said cylinder, the whole operating for the purpose of opening and forming the bottom of the bag tube, and means to move the bag tube with the cylinder.' "

These claims were held to be valid by the Circuit Court, which holding was affirmed by the Circuit Court of Appeals for the First Circuit and by the Supreme Court.

As stated by the Circuit court (p. 417):

" 'The pith of the invention is the combination of the rotary cylinder with means of operating the forming plate in connection therewith, limited, however, to means which cause the plate to oscillate about its rear edge.' "

The Supreme Court said (p. 421):

"Counsel, however, contends that the Circuit Court, in its decision, virtually gave Liddell a patent for a function by holding that he was entitled to every means to cause the forming plate to oscillate about its rear edge.

"The distinction between a practically operative mechanism and its function is said to be difficult to define. Robinson on Patents, sec. 144, *et seq.* It becomes more difficult when a definition is attempted of a function of an element of a combination which are the means by which other elements are connected and by which they coact and make complete and efficient the invention. But abstractions need not engage us. *The claim is not for a function, but for mechanical means to bring into working relation the folding plate and the cylinder.* This relation is the very essence of the invention, and marks the advance upon the prior art. It is the thing that never had been done before, and both the lower courts found that the machines of the Continental Company were infringements of it. It is not possible to say that the findings of those courts on that fact or on the fact of invention were clearly wrong, notwithstanding the great ability of the argument submitted against them."

In *Von Schmidt* v. *Bowers,* 80 Fed. 121 (C. C. A. 9), a decision of this Court and a leading case in this Circuit, contention was made that complainant's claims are for functions and results and constitute merely aggregations. Firmly turning down this contention, this Court said, p. 147 *et seq.*:

> "By section 4888 of the Revised Statutes it is provided that every inventor, when making his application for a patent, shall file in the patent office a written description of his invention; and, if the application be for a machine, he is required to explain the principle thereof, and the best mode in which he has contemplated applying the principle, so as to distinguish it from other inventions. But he is not necessarily limited to the one mode shown. The pioneer inventor is entitled to a generic claim, under which will be included every species included within the genus. In addition to such generic claim, he may include in the same application specific claims for one or more of the species. *Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 Sup. Ct. 299; *Clough* v. *Barker,* 106 U.S. 166, 1 Sup. Ct. 188; *Clough* v. *Manufacturing Co.,* 106 U. S. 178, 1 Sup. Ct. 198; Rob. Pat. Sec. 535; *Hammerschlag* v. *Scamoni,* 7 Fed. 584; *Telephone Co.* v. *Spencer,* 8 Fed. 509; *Machine Co.* v. *Teague,* 15 Fed. 390; *Manufacturing Co.* v. *Buffalo,* 20 Fed. 126; *Brush Electric Co.* v. *Electric Imp. Co.* 52 Fed. 965; *Ex Parte Nagle* (1870) Com. Dec. 137; *Ex Parte Howland,* 12 O. G. 889.
>
> "When the complainant claimed, in claim 10 of his patent 318,859, ' dredge boat having a self-contained pivot, forming a center of horizontal oscillation, with devices for swinging and working said boat upon said pivot, in combination with a suction pipe, exhausting apparatus, and rotary excavator,' he was not claiming a result, which, of course, he could not do. Nor did he thereby limit himself to any particular form of construction of the several devices therein mentioned. What he there claimed, and what he, as the first inventor of any combination that would accomplish the desired result had a right to claim, was the combination of a dredge boat itself containing a pivot forming a center of horizontal oscillation, with devices for swinging and for working the boat on the pivot, a rotary

excavator for the severing of the material in place, a suction pipe for its receipt and transmission to the exhausting apparatus, and the latter for the transportation and discharge of the spoils to the desired place of deposit. The record shows that the complainant was the first to combine those elements at all, and that the functions performed by his machine so constructed were entirely new. Hence he had the right to make the broad and generic claim embodied in claim 10, without any limitation as to the form of construction of the particular elements, and all subsequent machines which employ substantially the same means to accomplish the same result are infringements, notwithstanding the subsequent machine may contain improvements in separate mechanism which go to make up the machine. Authorities, *supra,* and *McCormick* v. *Talcott,* 20 How. 402; *Railway Co.* v. *Sayles,* 97 U. S. 554; *Clough* v. *Barker,* 106 U. S. 166, 1 Sup. Ct. 188; *Consolidated Safety-Valve Co.* v. *Crosby Steam Gauge & Valve Co.,* 113 U. S. 157, 5 Sup. Ct. 513. Of course, it remained open to any subsequent inventor to accomplish the same result by substantially different means."

In *Bake-rite Mfg. Co.* v. *Tomlinson et al.* 16 F. (2d) 556, C. C. A. 9, (1926), the following claim, previously held valid by the District Court, was upheld (p. 556):

" 'In an apparatus of the character described (a) a receptacle for hot grease; (b) mechanism for turning doughnuts or the like over after they have been in a separate receptacle for a predetermined length of time; (c) a mechanism for thereafter removing them after they have been cooked for a further predetermined length of time.' "

The court said (p. 557):

"It is also argued that Tomlinson's patent is invalid, because it is an attempt merely to patent a principle, function, or result. Appellants cite authorities holding that a patent covering generally any and every means or mechanism or method producing a given result is void as an attempt to patent a principle. That rule, undoubtedly generally correct, is inapplicable here, for the reason that Tomlinson claims a combination of means which operate together to perform a certain

function. *Morley Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 S. Ct. 299, 32 L. Ed. 715; *Denning Wire & Fence Co.* v. *American Steel & Wire Co.* (C. C. A.) 169 F. 793.' ''

A further important case is *Denning Wire & Fence Co.* v. *American Steel & Wire Co.,* 169 Fed. 793, C. C. A. 8 (1909). The claims were upheld by the Circuit Court whose opinion was adopted by the Circuit Court of Appeals.

The first claim is representative and is as follows (p. 799):

'' '(1) In a wire-fence machine, the combination of mechanism for intermittently feeding a plurality of longitudinal strand-wires, mechanism for intermittently feeding a plurality of stay-wires simultaneonsly and transversely of the strand-wires, mechanism for cutting off suitable lengths of the stay-wires to span the space between the strand wires, and mechanism for simultaneously coiling the adjacent ends of the lengths of the stay-wires around the strand-wires.' ''

The court said (pp. 799-800):

'' 'The others are in substantially the same form. Standing alone, the claims are plainly for a combination of four groups of mechanisms into a ''wire-fence machine''; but the machine itself, and its principle and mode of operation are not, and cannot be, accurately described without the aid of drawings or a model, and an attempt to do so would be unavailing. The specifications, however, and the drawings which are a part thereof, particularly describe, and plainly show, a machine the principles and mode of operation of which, and the several elements composing the same, are exactly described and clearly set forth with much detail; and the plain meaning of the language of the several claims in connection with the specifications applicable to each is a distinct claim for a machine that, when built and operated in the manner described and pointed out, will produce a wire-fence fabric, and is not a claim for a ''mode of operation,'' a ''principle,'' or a function of a machine or any part thereof, apart from the machine itself.

'Are the several claims so broad as to include any and every kind of a machine for making a woven wire-

fence fabric, such as is described? This question has been carefully considered, and it must suffice to say that they are not. The specifications clearly describe the several component parts, and their combination to form a new machine; and the claims are only for the combination of the mechanisms, or their substantial equivalents, within the scope of the organization as described, to do the work that this machine is designed to do.' "

In *Remington Cash Register Co.* v. *National Cash Register Co.,* 6 F. (2d) 585, District of Connecticut (1925), a large number of claims were upheld, notwithstanding contentions that they were for a function. The following claims may be taken as representative (p. 593):

" '58. In a calculating machine, the combination with a subtotal set of registers, a grand total set of registers, and co-operating printing mechanism, of means co-operating therewith whereby a group of items may be accumulated on said subtotal registers, listed, its total printed, and said subtotal registers cleared at the will of the operator, and whereby a plurality of such totals may be accumulated and preserved on said grand total registers for producing a grand total of groups of items which have been accumulated on said subtotal registers.'

'213. In a calculating machine, the combination of a subtotal accumulator and a grand total accumulator, a printing mechanism therefor, depressible keys for controlling said accumulators and said printing mechanism and means correlated with said accumulators, printing mechanism, and keys, whereby each group of a plurality of groups of items may under the control of said keys be separately totalized on said subtotal accumulators, and whereby each item of each of said groups of items may be printed by said printing mechanism under the control of said keys, and whereby each total of each of said groups of items may be printed by said printing mechanism under the control of said subtotal accumulator, and whereby a grand total of all of said totals may be accumulated on said grand total accumulator, under the control exercised by said keys for said totalization of said groups of items.' "

The court says (p. 606):

"But the defendant asserts that the claims in suit are void because they are for a function, and directs attention to *O'Reilly et al.* v. *Morse et al.* 15 How. 62, 14 L. Ed. 601, and other cases in support of its claim. While there are 10 claims in suit directed against the class 1700 machine, and 38 claims against the class 2000 machine, the defendant in its brief rests with a discussion of claim 213 in this connection, although it makes the broad assertion that 'the other claims in issue are stricken with the same vice,' without, however, showing how. Its contention is not sound. The claims were evidently drawn largely by the inventor himself, and they probably are not models of perfection in the art of drawing claims, but that does not necessarily make them invalid. They are, at least, clear, and unmistakably notify the public what the patentee claims as his own.

Claim 213, as well as the other claims in suit, are combination claims, in which the structure, of certain elements is identified as 'means' defined by its function. It is well established that such is a proper way to claim combinations of means. In the *Paper Bag Case,* 210 U. S. 405, 28 S. Ct. 748, 52 L. Ed. 1122, the Supreme Court sustained claims of a type similar to those in issue here, as has already been pointed out, and as appears on page 422 of the opinion in that case (28 S. Ct. 752).

The claims sustained by the Supreme Court in *Morley Sewing Machine Co.* v. *Lancaster, supra,* were of the same type as the claims here in suit; if anything, they disclose less structure than the claims under discussion. One of the claims there sustained reads:

'1. The combination, in a machine for sewing shank buttons to fabrics, of button-feeding mechanism, appliances for passing a thread through the eye of the buttons, and locking the loop to the fabric, and feeding mechanism, substantially as set forth.'

The claims in suit are not for a mere function, like claim 8 in the *O'Reilly* v. *Morse Case, supra,* but set forth the very combination of means which is the contribution which Gubelmann has made in this art, and which defendant is using in its machine. I therefore conclude and hold that the patented inventions of

Gubelmann are present in the defendant's class 2000 machine."

In *Brush Electric Co.* v. *Fort Wayne Electric Light Co.*, 40 Fed. 826, (1889) the Circuit Court for the District of Indiana, upheld the claims of letters patent No. 219,208, granted to Charles F. Brush September 2, 1879. The claims are given *in extenso* below (p. 832):

"'(1) In an electric lamp, two or more pairs or sets of carbons, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, substantially as and for the purpose specified. (2) In an electric lamp, two or more pairs or sets of carbons, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, and establish the electric light between the members of but one pair, to-wit, the pair last separated, while the members of the remaining pair or pairs are maintained in a separated relation, substantially as shown. (3) In an electric lamp having more than one pair or set of carbons, the combination, with said carbon sets or pairs, of mechanism constructed to impart to them independent and dissimultaneous separating and feeding movements, whereby the electric light will be established between the members of but one of said pairs or sets at a time, while the members of the remaining pair or pairs are maintained in a separate relation, substantially as shown. (4) In a single electric lamp, two or more pairs or sets of carbons, all placed in circuit, so that when their members are in contact the current may pass freely through all said pairs alike, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, substantially as and for the purpose shown . (5) In an electric lamp wherein more than one set or pair of carbons are employed, the lifter, D, or its equivalent, moved by any suitable means, and constructed to act upon said carbons or carbon holders dissimultaneously or successively, substantially as and for the purpose shown. (6) In an electric lamp wherein more than one pair or set of carbons are employed, a clamp, C, or its equivalent, for each said pair or set, said clamp, C, adapted to grasp and move said carbons or carbon molders dissimultaneously or suc-

cessively, substantially as and for the purpose shown.' ''

The court said (p. 833):

"It is admitted by the defendants' counsel that the patent in suit describes a new and useful mechanism for which Brush was entitled to a patent; but it is urged that the first, second, third, and fourth claims are for functions or results without regard to mechanism, and are therefore void. The claims are not open to this objection. The specification describes mechanism whereby a result may be accomplished, and the claims are not for mere functions; nor, fairly construed, can it be said that they cover other than equivalent means employed to perform the same functions. The first claim, construed in connection with the means described in the specification, is for an electric arc lamp in which two or more pairs of carbons are used; the adjustable carbons of each pair being independently regulated by one and the same mechanism, and in which there is a dissimultaneous or successive separation of the pairs, so effected as to secure the continuous burning of one pair prior to the establishment of the arc between the other pair. Thus construed, the invention claimed is limited to the particular means described in the specification, and their substantial equivalents. The second, third, and fourth claims also refer to the particular mechanisms described in the specification for the accomplishment of results covered by those claims. They are for combinations of specific mechanisms, and their substantial equivalents, and not for results irrespective of means for their accomplishment."

The same view is taken in *Brush Electric Co. et al* v. *Electric Imp. Co.,* 52 Fed. 965 (1892) the Circuit Court for the Northern District of California quoting the above language from *Brush Electric Co.* v. *Fort Wayne Co., supra.*

These claims were also upheld by the Circuit Court for the Northern District of Ohio in *Brush Electric Co.* v. *Western Electric Light & Power Co.,* 43 Fed. 533 (1890); in *Brush Electric Co.* v. *Electric Imp. Co.,* by the Circuit Court for the Northern District of California, 45 Fed. 241

(1891); in *Brush Electric Co.* v. *Fort Wayne Electric Co.,* by the Circuit Court for the District of Indiana, 44 Fed. 284 (1890), and in *Brush Electric Co.* v. *New American Electrical Arc Light Co.,* by the Circuit Court for the Southern District of New York, 46 Fed. 79 (1891).

DEFENDANTS' CROSS APPEAL.

Defendants assigned error from the decree of the trial court on two points (R. 658).

First: That the Court erred in holding United States reissue Letters Patent No. 16,297 in suit good and valid; and

Second: That the Court erred in denying the motion of defendants to dismiss the bill of complaint herein, on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 as to said reissue letters patent.*

In the following we propose to discuss defendants' positions so far as we can anticipate them in advance of their brief.

CROSS APPELLANTS' POINT I.

The Parker patent comes before this Court with every legal presumption to sustain its validity. It has been held valid by both the Master and the lower court.

No anticipation of it or of its concept is produced.

* We had intended to limit our opening brief to a discussion of plaintiff's assignments of error, which had to do primarily with the conflict of opinion between the Master and the lower court on the question of infringement (R. 652). We had supposed that under the rules of this court, where a cross appeal was filed, the cross appellants would be required to file their brief at the same time as that required for the appellant, but we have just been advised through defendants' counsel that defendants need not file any brief as cross appellants or otherwise until three days before the argument. This would make any reply before the argument impossible, and for that reason only we shall in the following here attempt to anticipate defendants' brief on the questions raised in their cross appeal. This necessarily is done without knowledge of the positions which defendants may take, and for that reason may be either surplusage or inadequate.

Actual service has proven that the Parker disclosure was the solution of the long existing and perplexing problem which others skilled in the art attempted to solve without success.

Defendants have not used and cannot use as a substitute any of the structures of the prior references upon which they rely, notwithstanding that all of them, with the possible exception of one, are open to their use.

The fact that the references introduced "as showing the prior art" show that numerous other inventors, who dealt with the elevator problem, entirely failed to perceive how to solve it, and their efforts pointed away from Parker's solution rather than toward it, demonstrates that what Parker did required far more than the skill of an experienced worker in the art.

No one of the various prior inventors, including defendants' engineers, perceived what now, in the light of the after acquired knowledge from Parker, is claimed by the defendants to be so simple.

Many patents have been sustained and held infringed by structures differing in details much more widely than defendants' installation differs from even the schematic showing of the Parker patent and where there was much less advance and improvement.

DEFENDANTS' ATTACK ON THE SCOPE OF THE PARKER PATENT IS WITHOUT MERIT AND ONLY SERVES TO MAGNIFY THE PARKER INVENTION AND DEMONSTRATE THE PRESSING NEED AND DEMAND FOR A SOLUTION OF THE PROBLEM SO EFFECTIVELY SOLVED BY PARKER.

In support of their attack on the scope of the Parker invention, the defendants in their original answer, filed September 13, 1927, set up thirty-four United States and foreign patents, alleging that *each of them showed and described the subject matter set forth in each of the claims of*

the Parker patent here asserted. They could hardly have been serious in this, for on or about January 23, 1929, about a year and nine months subsequent to the original answer, defendants' professional witness, Doble, in support of defendants' motion to amend its original answer, filed an affidavit under oath, stating that he (R. 467):

> "has been engaged in analysis of said Parker reissued Letters Patent, and said prior patents and publications, for a period of approximately six months. * * * The proposed amendments" (setting up additional patents in an attempt to anticipate and limit it) "are material and *necessary* to the proper defense of the case, and were not known nor could the same be known by the exercise of reasonable diligence prior to filing the original answer herein."

In the amendment accompanying this affidavit and which the lower court permitted the defendants to file, defendants set up eight additional United States and foreign patents, again alleging that each of them showed and disclosed the subject matter of each of the claims of the Parker patent in suit.

"The closest reference," the Ihlder patent of 1902, was not among those set up in either the original or the amended answer. Thus after six months' investigation by defendants' witness, Doble, defendants had pled a total of forty-two United States and foreign patents, alleging that each showed and disclosed the subject matter of each of the claims of the Parker patent here asserted.

Before the trial was concluded, defendants' counsel confessed of record, that none showed, disclosed nor anticipated the Parker invention nor met any of the claims of the Parker patent here asserted. When he offered the fifteen alleged prior patents, which Mr. Doble "culled * * * out of a very large number," he admitted in answer to the Master's question (R. 409) that he did not "consider that any" of the fifteen referred to disclosed "the same struc-

ture as the Parker patent discloses." They were offered, *not* as anticipating the Parker invention as alleged in the answer, but *"as showing the prior art"* for the purpose of limiting its scope. (R. 407, *et seq.*)

Three of these patents, Coyle, Kammerer and Ihlder, "the closest reference," could be offered only for the purpose of showing the state of the art as they had not been set up in the answer nor had any previous notice been given concerning them (R. 409) as provided by the Revised Statute, Sec. 4920.

The following quotation from *Forsyth* v. *Garlock* (C. C. A. 1), 142 Fed. 461, 463, is apt:

> "Our general observation * * * is that the citation of so many patents by a respondent in an infringement suit sometimes tends, as we have several times said, not so much to weaken complainant's position as to strengthen it by showing that the trade had long and persistently been seeking in vain for what complainant finally accomplished."

The prior art relied on serves only to demonstrate the long-existing and pressing need for a solution of the problem, and how prior inventions failed to solve it; and that the Parker claims should be given a liberal interpretation.

These prior references serve to magnify the Parker invention and establish that Parker made a real invention and "took the important but long-delayed and therefore not obvious step." *Hildreth* v. *Mastoras,* 257 U. S. 27. *Eibel Process Co.* v. *Minnesota Co.,* 261 U. S. 45.

Because of the correct finding of the Master that the Ihlder (1902) patent "is the closest reference" and as it is the only one discussed by the lower court, we shall not take up the time of this Court to discuss them in detail, but will point out some of the outstanding reasons why they do not even approach the Parker invention or limit the Parker claims and that none of them could accomplish

the advantages or results of the Parker invention. Mr. Doble, defendants' expert, on cross-examination, was compelled to admit this.

Crouan. No. 344,307 of 1886.
(Vol. 3, P. 233.)

This is an hydraulic-operated elevator. It is started and stopped by pulling a control rope. It has no electrical apparatus or switches whatever. It has a mechanical device which can only be set for one floor at a time by grabbing the rope to cause the stopping of the car at a floor. After it has thus stopped the elevator at a floor, it must be again set for any other floor at which it is desired the car should stop.

This patent does not show or disclose:

(a) An electrical controlling circuit;

(b) A switch manually operable for closing said circuit.

(c) Means for holding said switch in circuit closing position;

(d) Selective means for actuating the release of said holding means to stop the elevator at one or more predetermined points in the line of its travel;

(e) A manually operable circuit closer to be operated prior to the arrival of the elevator at a selected stopping point;

(f) An automatic circuit closer actuated upon the arrival of the elevator at the selected stopping point;

(g) A plurality of control means, one for each of a plurality of landings, operable from without the car, to cause the stopping of the car at the landings, for which the control means are operated.

In short, as this patent was so completely disposed of on cross-examination of defendants' witness, Doble, (R. 458, *et seq.*) and is so fundamentally and radically different from the Parker invention, as must be apparent to any one at a glance, we pass this 1886 patent without further discussion.

BULLOCK. No. 388,627 OF 1888.
(Vol. 3, P. 247.)

This patent shows what appears to be a freight elevator, in which the controlling element is the ordinary "shipper cord" (page 1, line 24). There is nothing whatever electrical about this structure. There are no electrical switches. There is a mechanical device set from within the car to engage the shipper cord, to stop the car at a landing, but this device can be set in advance for only one stop. After a stop, the stopping device must be again set for the next stop. There is no means whereby the waiting passenger can automatically stop the car at any one of predetermined landings. It discloses none of the elements of the Parker reissue patent. It lacks the same features as pointed out with respect to Crouan. (R. 462, *et seq.*)

NICKERSON. No. 403,439 OF 1889.
(Vol. 3, P. 255.)

This patent shows a very crude electrical apparatus for operating the starting and stopping control means for an elevator only from within the car.

The combined starting and stopping mechanism can be set for only one floor at a time.

The car cannot be stopped by passengers waiting at the landings.

There are no push buttons or other stopping devices operable from without the car at the landings.

There is only one manually operable handle for operating the two starting and stopping switches from within the car, that is to say, the same handle is used for setting both the up and down starting and stopping switches within the car.

The operator must remember each floor called by the passengers and must operate the combined starting and

stopping switch after each stop, in order to cause the car to travel to another floor and stop at that floor.

The starting and the stopping of the car is initiated solely from the car switch, and after the switch has been operated, to start the car on its way to a given floor, no means, excepting the same switch, is provided for stopping the car. (R. 473, *et seq.*)

NICKERSON. No. 403,440 OF 1889.
(Vol. 3, P. 265.)

This patent is intended to accomplish the same operation as the previous Nickerson patent, but employs a different apparatus for that purpose. The distinctions between Nickerson 403,439 and Parker, already pointed out, apply in substance to this patent. Further discussion of this patent is therefore unnecessary.

MCFEELY. No. 404,361 OF 1889.
(Vol. 3, P. 271.)

This patent relates to an hydraulic elevator, controlled by a hand rope which is actuated either directly by hand or indirectly through the intermediary of electrically controlled valves.

A switch is provided within the car for determining the direction of car travel. A second switch comprising a switch lever operable over a plurality of contacts is also provided within the car for controlling both the starting of the car and the floor at which a stop is to be made. These switches close one or the other of two circuits for the electrically controlled valves. Upon arrival at the selected floor, a cam opens a switch in the circuit established by the switches in the car, to effect the stopping of the car.

This patent lacks:

(a) Push buttons or other stopping devices oper-

able from the landings, by which waiting passengers can stop the car.

(b) A plurality of stop controls, either in the car or anywhere else, which can be set in advance for a plurality of floors.

(c) A single start control in combination with a plurality of stop controls.

(d) Control means operable by passengers at landings to stop the car in combination with control means operable from within the car to start the car.

(e) A switch holding means released by closing two gaps in a circuit, one manually in advance of arrival at the stopping point and the other automatically upon arrival at the stopping point.

The points above noted will be sufficient to show that the system of the McFeely patent is entirely unlike that of the Parker patent, and none of the Parker claims in suit can be met or limited by McFeely.

Ongley. No. 410,182 of 1889.
(Vol. 3, P. 283.)

This is one of the two patents which defendants' witness, Doble, said was capable of being started only from within the car and of being stopped from within the car or the landing. Mr. Doble simply was in error on this for as a matter of fact with the Ongley arrangement the car is started from any landing as well as from within the car and the waiting passengers at the floors can interfere with the operation of the car at any time regardless of where it is.

The lack of similarity between the Ongley arrangement and the Parker invention was clearly brought out during the cross-examination of defendants' witness Doble. (R. 464.)

Ongley has two start control buttons in the car and two start control buttons at each landing. He thus lacks the important feature of the Parker invention, namely, only

one start control, and this operable only from within the car.

Ongley has one car button for stopping. This does not correspond with particular floors, as he uses the same button no matter at which floor he may desire to stop. The operator must know where the car is, and push the stop button while the car is in the stopping zone for the particular floor desired and hold the button in until the car has stopped. The operator thus cannot set controls for a plurality of stops in advance.

Each landing has one stop button which may be pushed in while the car is in the stopping zone for the particular floor at which a waiting passenger desires to stop the car, and must be held in until the car comes to a stop. These hall buttons, however, are not selective with respect to particular floors, and any one of them may stop the car at the first floor which the car comes to while the hall button is held in.

Waiting passengers cannot set a series of stop buttons at the landings, and definitely obtain automatic stopping at the selected landings, even by holding the stop buttons. Since the person entering the car at the first stop might thereupon start the car in a direction away from the landing where a second passenger is waiting, the second passenger might be required to wait for an indefinite length of time or he might push a start control button at his landing and reverse the direction of the car. The passenger in the car and each of the passengers waiting at landings might likewise operate start control buttons for either direction, to the complete demoralization of the elevator service. Such a possibility will at once suggest the importance of the Parker principle of having only one start control, and this operable only from within the car, while having stop controls operable from within the car and stop controls operable from without the car.

In brief the Ongley patent in nowise shows electric control means for an elevator whereby the elevator can be automatically stopped at any one of a series of predetermined floors by the operator pressing a button within the car or the waiting passenger pressing a button at any one of the landings and can only be started by the attendant manually operating the control means within the car.

COYLE. No. 471,100 OF 1892.
(Vol. 3, P. 301.)

This patent discloses an hydraulic elevator, with electrical control circuits.

Its starting is not dependent upon a single start control operable only from within the car. Each of the hall buttons of Coyle is a start control as well as a stop control, likewise each of the buttons within the car of Coyle is a start control as well as a stop control.

Under no condition can the car of Coyle, after being started from within the car, be stopped by a control operable from without the car.

The Coyle patent lacks:

(a) A single start control means, operable only from within the car.

(b) A single start control operating in combination with a plurality of stop controls.

(c) Start control means operable only from within the car, in combination with stop control means operable by passengers waiting at landings.

(d) A plurality of stop controls which may be set in advance for stopping at a number of floors called for by passengers without depending upon the operator remembering what floors were called.

Since Coyle definitely intends to have the car subject to the control of one button to the exclusion of others, it will be clear that his disclosure is entirely lacking in the Parker principle of co-operation between stop controls in

the car, stop controls at the landings and a start control in the car.

The Coyle patent in many other respects clearly lacks the Parker invention as shown by the cross-examination of defendants' witness Doble.

BUFFINGTON, ET AL. No. 530,578 OF 1894.
(Vol. 3, P. 311.)

In this patent there are no switches that can be set at the same time to stop the car at different floors when the car arrives at those floors.

The two switches that are on the Buffington, et al., car can be set to stop the car at one landing only, and one or both of these switches must be again set to start the car and cause it to stop at a further floor.

There are no push buttons whatever at the landings in the Buffington, *et al.,* structure.

The patent discloses no single start control in combination with a plurality of stop controls. The patent also lacks control means operable by waiting passengers at landings to stop the car at the respective landings in combination with control means operable from within the car to start the car.

STROHM. No. 570,827 OF 1896.
(Is an hydraulic elevator. Never used.)
(Vol. 3, P. 321.)

In the Strohm patent there is no selected means comprising a manually operable circuit closer to be actuated prior to the arrival of the car at a selected point and an automatic circuit closer actuated upon the arrival of the car at said selected stopping point.

In the Strohm patent there is more than one control means for causing the starting of the car; there being in

Strohm a control means within the car for causing the starting of the car, and other control means, the doors and gates, that are operable from outside the car, to cause the car to start.

Strohm has no plurality of control means operable from within the car to cause the automatic stopping of the car at the respective floors.

The Strohm patent does not embody a control system of the type wherein the power mechanism is caused to stop the car at a landing in response to the operation of a switch either within the car or a switch at the landing, characterized by the fact that means are provided only within the car causing the power mechanism to start the car.

In the Strohm patent there is no plurality of up switches, one for each of a plurality of landings, and there is no plurality of down switches, one for each of a plurality of landings, operable to cause the stopping of the car at the respective landings upon its approaching said landings, and there is no car actuating and stopping mechanism responsive to each of the plurality of stop switches operated only when the car is traveling in one direction, and, consequently, there can be no means for preventing the operation of the car actuating and stopping mechanism to stop the car in response to either the up or the down stop switches when the car is traveling in the other direction from that for which the stop switch has been operated.

Kammerer. No. 681,555 of 1901.
(Vol. 3, P. 361.)

In this patent there is a hand operated reversing switch for starting the car and an automatically operated rheostat switch that cuts out resistance from the motor armature circuit when the elevator is started so as to speed it up. The hand operated reverse switch, which is also the

starting switch, can only be set to cause the car to travel from where it is to one particular floor where the car will automatically stop; to cause the car to proceed to another floor, the reverse switch has to again be operated to start the car, and this must be repeated for every trip the car takes.

The whole control of the lift cage in the Kammerer patent is effected by the handle *c* of the reversing switch. The Kammerer car can not be stopped by waiting passengers at any floor and the person in the car must set the switch for the floor at which he desires the car to come to rest automatically.

After the master switch in the car has been set for any given floor, the car can not be stopped until that floor is reached, unless the person in the car uses his hand to operate the lever catch *i*. According to the specifications, the lever catch *i* is intended to be operated mechanically and automatically by the arm *a* when the latter engages a hatchway cam.

There are no buttons and no plurality of switches either within the Kammerer car or in the hallways. None of the claims of the Parker patent read upon it.

In Kammerer there is no selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the car at a selected stopping point and no automatic circuit closer actuated upon the arrival of the car at said selected stopping point, for the purpose of stopping the car. In fact, what happens in Kammerer is that when the car arrives at the stopping point, the catch that holds a spring actuated switch is released to permit the switch to open, and another switch is operated by a cam to cut resistance into the armature circuit so that instead of closing two gaps in an electrical circuit, Kammerer cuts resistance into the circuit and then opens the circuit.

NISTLE. No. 718,375 OF 1903.
(Vol. 3, P. 383.)

The structure of this patent is entirely mechanically operated. There is nothing whatever electrical about it, either shown, described or hinted at. The Nistle patent shows and describes an elevator car, all movements of which are controlled by a cable extending from the bottom to the top of the shaft, this cable being operable to actuate the control valve of the elevator.

"Strikers" or "tappets" are secured to the rope adapted to be engaged by an adjustable arm upon the car for the purpose of operating the control rope to stop the car. This Nistle device would be entirely unsatisfactory for stopping a high speed elevator.

As there is nothing whatever electrical about this patent, none of the claims of the Parker patent can be read upon it. The devices of the Nistle patent are in no sense switches but are merely "strikers" or "tappets" which may be set and caused to automatically engage the control rope at given points for the purpose of stopping the car. For starting the car, the control rope is operated by hand.

Nistle has no push buttons or other control means operable by waiting passengers at the landings, to automatically stop the car.

WORTHEN. No. 1,219,061 OF 1917.
(Vol. 3, P. 393.)

In the Worthen patent a different lever has to be actuated to start the car from each floor and cause it to go to another floor and stop there. The principal of construction and operation of Worthen is entirely different from the principle of construction and operation of the Parker patent, and none of the claims in suit of the Parker patent can be read upon the Worthen structure.

After each stop, the car must be started for the particular floor to which it is desired to go. In the Worthen patent there are no push buttons or switches at the floor landings for stopping the car, and no means shown for waiting passengers to stop the car.

The Worthen patent was before the Patent Office officials during the prosecution of the Parker application for his reissue patent in suit and was completely disposed of there.

SMALLEY, ET AL. No. 634,220 OF 1899.
(Vol. 3, P. 341.)

This patent relates solely to a system for flashing a light by pressing a button at the landing. The elevator in every instance is started and stopped solely and only by the operator in the car through the manual operation of the switch in the car. It contains none of the features of the Parker patent whereby the car is automatically stopped either by pressing a button in the car or at any one of the various landings.

If any doubt ever existed as to whether or not the Parker combination amounted to patentable invention, or is entitled to a liberal interpretation of its claims, these doubts have been removed by defendants' introduction of the extended testimony of their professional witness and the large number of references offered, most of which have no resemblance whatever to the Parker "Control" combination, in its futile attempt to build up a defense in weight and volume rather than quality.

Defendants asserted both before the Master and lower court that the claims of the Parker patent should be so limited as to require the language of the claims which clearly read on defendants' control to be so interpreted as to not include within them defendants' control in the light of the references introduced on behalf of defendants. But defendants do not adopt any of the prior art starting and

stopping controls, most of which they are free to use. On the contrary they departed from all of them and adopted entirely and precisely the broadly new combined starting and stopping "Control" covered by the Parker claims.

CROSS APPELLANTS' POINT II.

DEFENDANTS' MOTION TO DISMISS, BASED UPON THE ASSERTION THAT THE PARKER PATENT IS INVALID BECAUSE PLAINTIFF FILED A DISCLAIMER OF CLAIM 37 AT THE PATENT OFFICE, IS WITHOUT MERIT. IT WAS PROPERLY DENIED BY THE LOWER COURT.

Plaintiff originally asserted claim 37 of the Parker patent in addition to those mentioned above. The Master's report found that this claim was not sufficiently definite to comply with Section 4888 of the Revised Statutes and (R. 570)

"that the other claims amply protect the invention."

Plaintiff thereafter filed a *proper,* although unnecessary, disclaimer of claim 37 at the United States Patent Office (R. 629).

The lower court in denying this motion states the facts and reaches a legal conclusion in accordance with the well established practice under the disclaimer statute as follows (R. 632):

> "On May 1, 1932, the plaintiff filed disclaimer in the United States Patent Office as to claim 37 which the master has determined was invalid. Pending a decision of the cause, defendants moved the court to dismiss the case on the ground that the plaintiff had unduly delayed the filing of its disclaimer as to claim 37, citing *Ensten et al* v. *Simon Ascher & Company,* 282 U. S. 445. The argument on the motion to dismiss presented the contention that the plaintiff having failed to except to the finding of invalidity made by the master as to claim 37, and having allowed the time intervening from February 25, 1930, the date of the filing of the master's report, and May 1, 1931, to elapse without disclaiming, the case came within the effect of

the decision above cited. That motion was submitted, and is now to be first disposed of. It would seem that where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim. It is true that no exception was taken to the report of the master finding claim 37 invalid, but the entire report was, at the time of the making of the motion, still before the court subject to being passed upon, changed or modified. There was no decree interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, hence in my view the matter remained at large and the commencement of the reasonable time within which the plaintiff might disclaim would be the entry of such decree. I am, therefore, of the opinion that the motion to dismiss should be denied, and it is so ordered."

The facts and law fully support the above conclusion of the court.

The disclaimer states (R. 631):

"The sole reason for this disclaimer is that a Special Master, in the case of *Otis Elevator Company* v. *Pacific Finance Corporation and Llewellyn Iron Works*, now pending in and undecided by the District Court of the United States, for the Southern District of California, Central Division, has advised, for the reasons likewise applicable to claims 34, 35 and 36, in a report filed by him, that said claim 37 is invalid as not complying with Section 4888 of the Revised Statutes and as he 'considered that the other claims amply protect the invention.' "

There is nothing in any of the disclaimer statutes which requires a disclaimer to be filed unless a patentee has *"claimed to be the original or first inventor or discoverer of any material or substantial part of the thing patented of which he was not the original and first inventor or discoverer."* *

Neither the Master's report upon which defendants' motion is based, nor the allegations contained therein, pretend that the disclaimed claim 37 claimed more than that of

* R. S. 4917, Sec. 71, Title 35, U. S. Code.

which Parker was the original or first inventor or discoverer, but on the contrary, show that this claim was held invalid only because it was indefinite as not in compliance with Revised Statutes, Section 4888.*

Defendants' motion taken with the Master's report on which it is based, shows that it was *not necessary* for the plaintiff to file a disclaimer of claim 37 because the Master had recommended that claim 37 be decreed to be invalid as not complying with Section 4888 of the Revised Statutes because of indefinitness.

The recommendation by a Master that a claim be held to be invalid because of indefiniteness and not in compliance with Section 4888 of the Revised Statutes does not sustain any contention that the patentee "claimed more than that of which he was the original and first inventor or discoverer." It means nothing more nor less than that he has not made the claim to his invention sufficiently specific or definite.

Under such circumstances, while a patentee may disclaim such a claim after a report by the Master or at any other time to save further controversy, especially when the other claims adequately protect the invention, he may do so without being charged with negligence or delay.

Even in a case where a Master recommends that a claim be decreed to be invalid *in view of the prior art,* it is unnecessary for the patentee to make any disclaimer of that

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* Sec. 4888. Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle so as to distinguish it from other inventions; and *he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.* The specification and claim shall be signed by the inventor."

claim *until after a final decree has been entered actually adjudging such claim invalid,* for even where it becomes necessary to file a disclaimer under the statutes within a reasonable time, the patentee cannot under the authorities be charged with delay until after the entry of a decree or judgment from which no appeal is taken or from which no further appeal is permitted. (*Bassick Mfg. Co.* v. *Adams Corp.* (C. C. A. 2), 52 F. (2d) 36, 37, and Judge James in the present case (R. 633).

A *necessary* disclaimer (*i. e.,* where a court of competent jurisdiction has entered a decree or judgment holding that the patentee has claimed more than that which he was the first to invent, which has become final and from which no further appeal can be taken), must not be confounded with a *proper* disclaimer (*i. e.,* one which may or may not be filed as the patentee elects).

Where a claim has been held invalid for lack of utility or indefiniteness as not complying with Section 4888, R. S., a disclaimer is "*proper*" but not "*necessary.*"

The Master in his report concluded that claim 37 of the patent in suit was invalid and recommended that the lower court so decree—

> (*a*) *Not because* Parker claimed "more than that of which he was the original or first inventor or discoverer";
>
> (*b*) *Not because* he claimed "materially more than that of which he was the first to invent";
>
> (*c*) *Not because* he claimed to be the original or first inventor or discoverer of a substantial part of a thing of which he was not the original or first inventor or discoverer, for the Master definitely found, as shown on the face of his report, "*that the other claims amply protect the invention*";

but because he concluded, *as a matter of law,* that claim 37 did not comply with Section 4888, R. S., as to form for it did not include "such definition of structure that the elements of structure claimed can be identified."

The report of the Master shows that a disclaimer was not necessary as he concluded, *as a matter of law,* that Parker did not claim anything more than he was entitled to, but that claim 37 was indefinite, although it related to a subject-matter *he was entitled to protect and did invent,* and that the other claims amply protected the invention. The disclaimer filed May 1, 1931, was not *"necessary"* though *"proper."*

Parker's claim 37 does not claim "more than that of which he was the original or first inventor or discoverer." The Master very definitely expressed the view not only that "the other claims amply protect the invention," but that—

> "Nothing in the prior art shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing."

It was to such a combination that the claims asserted, including the sub-combination claim 37, were directed.

The Supreme Court in *Cartridge Co.* v. *Cartridge Co.,* 112 U. S. 624, in considering the disclaimer statutes and laying down the rule as to when disclaimers *are necessary,* speaking through Mr. Justice Blatchford, said at p. 642:

> "It is a patentee who '*has claimed more than that of which he was the original or first inventor or discoverer,*' and only '*such patentee,*' or his assigns, who can make a disclaimer; and the disclaimer can be a disclaimer only 'of such parts of the thing patented as he shall not choose to claim or hold by virtue of the patent or assignment.' A disclaimer can be made only when something has been claimed of which the patentee was not the original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented. It is true, that, in so disclaiming or limiting a claim, descriptive matter on which the disclaimed claim is based, may, as incidental, be erased, in aid of, or as ancillary to, the disclaimer.

But the statute expressly limits a disclaimer to a rejection of something before claimed as new or as invented, when it was not new or invented, and which the patentee or his assignee no longer chooses to claim or hold. It is true that this same end may be reached by a reissue, when the patentee has claimed as his own invention more than he had a right to claim as new, but, if a claim is not to be rejected or limited, but there is merely 'a defective or insufficient specification,' that is, description, as distinguished from a claim, the only mode of correcting it was and is by a reissue."

The Supreme Court has since repeatedly cited this case with approval.

In *Carson* v. *American Smelting Co.,* 4 F. (2d) 463, this Court recognized and followed the ruling laid down by the Supreme Court in the *Cartridge Co.* v. *Cartridge Co.,* case. In dealing with the disclaimer involved, it said of the disclaimer statute (p. 469):

"It is intended for the protection of the patentee as well as the public, and ought not, therefore, to receive a construction that would restrict its operation within narrower limits than its words fairly import." In *Cartridge Co.* v. *Cartridge Co.,* 112 U. S. 624, 642, 5 S. Ct. 475, 485 (28 L. Ed. 828), it was said: 'A disclaimer can be *made only when something has been claimed of which the patentee was not the original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented.*' Said the court in *Sessions* v. *Romadka,* 145 U. S. 29, 40, 12 S. Ct. 799, 801 (36 L. Ed. 609): 'The power to disclaim is a beneficial one, and ought not to be denied, except where it is resorted to for a fraudulent and deceptive purpose.' "

Walker on Patents, Fifth Edition, p. 265, Section 195, says:

"Mistakes of fact, relative to how much of a described process, machine or manufacture was first invented by its patentee, frequently follow from lack of full information touching what was previously invented by others. Litigation may alone disclose the fact that the patentee's claims are too numerous or too broad to

be consistent with novelty. Whenever this occurs, it is clear that the patentee ought no longer to appear to hold an exclusive right to anything which he was not the first to invent. To this end, the statute provides that he must disclaim that part, within a reasonable time, or, in default thereof, must suffer the statutory consequences. On the other hand, it is equally clear, that if the patentee is willing to eliminate from his claims, everything which later information shows *had been invented before him,* he ought to be allowed to retain his exclusive right to the residue. To this end, the *statute provides that if within a reasonable time, he disclaims what was another's, he shall be enabled to enforce his patent as far as it covers what was his own invention.''*

In a very recent case, *Sachs* v. *Hartford Electric Supply Co.,* 47 F. (2d) 743 (C. C. A. 2), Circuit Judge Learned Hand, in dealing with a disclaimer filed to limit the claims, said at p. 747:

> ''However, we do not see that these limitations were in any sense *necessary* to escape the prior art. *A disclaimer is to abandon some part of the invention of which the patentee is not 'the first and original inventor.' If he has claimed originally too much, so that the claims are invalid under the prior art,* the part disclaimed must be clearly separate in the body of the specifications; if he wishes to recast the whole, he must go to a reissue. But there is no objection to his limiting a valid patent as his fears may dictate; * * *''

The disclaimer statutes and authorities only *require a disclaimer* when the ''patentee has claimed more than that of which he was the original or first inventor or discoverer.''* Such a disclaimer is called a *''necessary''* disclaimer because it is imperative that it be filed without unreasonable delay after final judgment or decree of a competent court, from which no further appeal can be taken, holding it invalid in order to save the remaining claims. A disclaimer which does not fall within that requirement is not a ''necessary'' one and may or may not be filed at the

* R. S. 4917, Sec. 65, Title 35, U. S. Code.

patentee's election, but it is a "proper" disclaimer. To illustrate: When a claim has been held invalid, even in a final decree, solely for lack of utility or solely because it is indefinite, and does not comply with Section 4888, R. S., no disclaimer is necessary or required, but in such a case a disclaimer may properly be filed if and whenever the patentee so elects. The remaining claims are affected only where a disclaimer was "*necessary.*"

Robinson on Patents, in dealing with "*proper*" though not "*necessary*" disclaimers, says, Vol. 2, page 293, Section 652:

> "A disclaimer filed without sufficient cause is a nullity under this as well as the former section of the act. If there is no real excess of Claim, according to the construction given to its language by the court, the filing of a disclaimer by the plaintiff, pending suit, does not admit his inability to recover costs. A disclaimer leaving the patent to claim the entire invention, as the courts must have construed it had the disclaimer not been filed, is equally inoperative both as an amendment and upon the costs. The same is true of a disclaimer of a part or act not claimed in the patent, and of such features as the court finds merely formal and not essential to the idea of means embodied in the invention as originally claimed."

Here the Master construed the claims he recommended be sustained as covering the invention attempted to be covered by the subcombination of claim 37, for he definitely stated as one of his reasons for advising, as a proposition of law that claim 37 was invalid:

> "That the other claims amply protect the invention."

Therefore, under the statement of Robinson in his work on Patents a disclaimer was wholly unnecessary here and need not have been filed. It was filed only because the owner of the patent elected to file it to save further controversy and expense over it, and not because it was obliged to do so under the statutes or decisions.

Walker on Patents, Sixth Edition, quoted with approval by the Supreme Court in the Ensten case, *infra,* on which the defendants here mainly rely, in dealing with unnecessary disclaimers, states, page 334, Section 248:

> "There appears to be no warrant in the statute, for disclaiming any claim which is void for want of utility, and for no other cause. An inventor of a new thing may generally ascertain its character in point of utility before applying for a patent. If he can do so he ought to do so, and thus shield the public from a waste of time involved in examining and judging useless contrivances. Where a patent has but one claim, and where the matter covered by that claim is useless, no disclaimer could make that patent valid. *Where a part only of the claims of a patent are void for want of utility,* and for no other cause, the void claims are not injurious to the valid ones, and therefore no disclaimer is needed in any such case.
>
> And no disclaimer is necessary where some, but not all of the claims of a patent are void, by reason of constructive abandonment, resulting from public use or sale of the subjects of those particular claims, more than two years prior to the application for the patent."

Again Walker says (p. 341):

> "The case where a disclaimer is necessary to save the patent *must, however, be distinguished from the case where a disclaimer would be merely proper, as, for instance, where a claim is invalid for incompleteness of description,* as in the latter case the foregoing rule as to costs does not apply."

Again Walker says (p. 337, Section 251):

> "There is one difference between the two disclaimer sections of the Revised Statutes, which it is proper to mention and explain in this place. Section 4917 contemplates disclaimers as being proper whenever a patentee has claimed more than that of which he was the first inventor; while Section 4922 attends only to cases wherein the excess is a material or substantial part of the thing patented. This qualification should be inserted in the two sections as construed together because Section 4922 is the only one that prescribes any evil result from a failure to disclaim. *Neither section visits*

> *any infliction on the patentee, for omitting to disclaim anything which is an immaterial part of the thing patented.* If, therefore, a patentee omits to disclaim such a part when he discovers it to have been known before his invention thereof, or learns that it is not an invention at all, he thereby loses no right, and incurs no inconvenience. *To file a disclaimer, in such a case, is an act which is at once harmless and unnecessary.*"

If the Master was right in concluding that claim 37 of the Parker patent is indefinite and incomplete and failed to comply with Section 4888, then it never was a claim which covered an invention. It merely amounted to a paragraph of immaterial reading matter, which need not, but may be disclaimed. According to Walker:

> "to file a disclaimer, in such a case, is an act which is at once harmless and unnecessary."

In *National Electric Sign Co.* v. *DeForest Wireless Telegraph Co. et al.,* 140 Fed. 449 (C. C. S. D. N. Y.), Judge Wheeler in distinguishing between *"necessary"* and *"proper"* disclaimers and dealing with a situation where a claim is invalid for "indescription," said at page 455:

> "The statutes restricting costs upon filing a disclaimer after suit seem only to apply where a disclaimer is necessary to upholding the patent, and is filed for the purpose of saving it. That is not the situation here. No part of the invention set forth to which the claims held valid apply needs to be disclaimed to make or leave them valid. *The doubt about those in question not held to be valid arises from their description of what is claimed, and not from failure of right of the patentee to what they might have covered. The various forms of claims or the same thing need not all be valid; and those that for indescription are not valid need not be disclaimed in order to recover upon those that describe the actual invention.* That costs were not mentioned was not intended to indicate that they should not follow the recovery.
>
> "The decree is made to conform to these views."

Judge Wheeler thus clearly held that a claim which was invalid for incompleteness or indescription (both meaning

the same thing), need not be disclaimed, that is, such a situation does not require or make "necessary" a disclaimer. This is precisely the condition in the present case.

In *Marconi Wireless Telegraph Co.* v. *DeForest Radio Telephone & Telegraph Co.,* 243 Fed. 560 (C. C. A. 2, Cox, Rogers, and Hough, Circuit Judges) Circuit Judge Hough in delivering the opinion of the Court, in disposing of the contention there made that the patent in suit was made void by an unlawful disclaimer, said (p. 565):

> "The mistake (if there was one) was in claiming something not needed, *and the disclaimer abandoned what was not wanted, without broadening or enlarging any claim;* it also left the claims fully supported by the original specification. No injury to defendant, or any one else, is shown."

This Court in *Carson* v. *American Smelting & Refining Co.,* 4 F. (2d) 463 (C. C. A. 9), *supra,* at p. 470, speaking through Circuit Judge Gilbert, adopted and quoted the above language of Judge Hough with approval.

In *Whitney* v. *Boston & A. R. Co. et al.,* 50 Fed. 72 (C. C. Mass.), Judge Nelson said:

> "Defendant's motion to withhold a decree in favor of the plaintiff until the plaintiff shall have disclaimed the 1st, 4th, 5th, 6th and 7th claims of his patent is denied, upon the ground that, assuming, as the defendants contend, that the evidence in the case proves that said claims cover what had been in public use and on sale for more than two years prior to the plaintiff's application for his patent, yet, since it appears that the plaintiff was the original and first inventor of the parts of his invention secured by said claims, he is therefore not required by Rev. St. sec. 4922, in order to entitle himself to a decree for an infringement of the second and third claims of his patent, to make disclaimer of the other claims."

The courts have repeatedly refused to insist on disclaimers even where the evidence shows that claims *not in suit* were invalid in view of the prior art.

It is clear under the statutes and authorities that a disclaimer was not *"necessary"* in the present case but that the one filed was *"proper"* and one that may or may not have been filed at plaintiff's election without any injurious results to the sustained claims.

In this connection District Judge Coxe's decision in *Hewes & Potter Inc.* v. *Meyerson* (D. C. N. Y.), 51 F. (2d) 405, presents an interesting anomaly. Defendants there insisted that the suit

> "should be dismissed because of the failure of the patentee to disclaim"

after an unfavorable decision in other litigation in another circuit, declaring the entire patent invalid, citing *Ensten* v. *Simon, Ascher & Co.,* 282 U. S. 445, upon which defendants here rely in support of their contention. In disposing of this contention the court said (p. 407):

> "It is not, however, satisfactorily explained how a patentee can disclaim where his entire patent has been declared invalid by a Circuit Court of Appeals in one circuit and sustained in another circuit, and the entire purpose and history of the disclaimer statute indicates that it was never intended that it should apply to such a situation."

The Ensten case, 282 U. S. 445, upon which defendants rely, affords no basis for their motion.

In the Ensten case, the patent contained six claims which were asserted in the Northern District of Ohio (*Ensten* v. *Rich-Sampliner Co. et al.*). An interlocutory decree was filed May 24, 1922, that adjudged claims 1, 3, 4 and 5 valid and infringed and held claim 2 invalid in view of the prior art. In other words, claim 2 was held to be too broad and to include more than that of which "the patentee was the original or first inventor or discoverer." Within thirty days the defendants appealed from so much of the decree as upheld the four claims. Complainant might have, but did not appeal, from that portion of the decree holding

claim 2 invalid, in view of the prior art, and hence the validity of claim 2 was not before the Court of Appeals when it approved the decree so far as challenged by the defendants as to claims 1, 3, 4 and 5. The plaintiff, not having appealed from the holding that claim 2 was invalid, as claiming more than that of which he, the patentee, was the original or first inventor or discoverer, and the Court of Appeals having affirmed that decree, the plaintiff was thereby prevented from ever again asserting in that suit the validity of claim 2.

Notwithstanding no appeal was taken from the interlocutory decree of May 24, 1922, the plaintiff waited until April 30, 1924, to file a disclaimer as to claim 2 in the Patent Office.

Judge Westenhaver in the case of *Ensten* v. *Rich-Sampliner Co.* (D. C. Ohio), 13 F. (2d) 132, and the Court of Appeals of the Sixth Circuit in the case of *Ensten* v. *Simon, Ascher & Co.,* 38 F. (2d) 71, held that the patentee had unreasonably neglected and delayed disclaiming claim 2 after the District Court in Ohio had decree it invalid, from which decree no appeal was taken.

The Supreme Court in the Ensten case quotes from the opinion of *O'Reilly* v. *Morse* (1853) 15 How. 62, as follows (p. 454):

> "It appears that no disclaimer has yet been entered at the Patent Office. But the delay in entering it is not unreasonable. For the objectionable claim was sanctioned by the head of the Office; it has been held to be valid by a Circuit Court and differences of opinion in relation to it are found to exist among the justices of this court. *Under such circumstances the patentee had a right to insist upon it, and not disclaim it until the highest court to which it could be carried had pronounced its judgment.*"

Again the Court says (p. 455):

> "In certain definitely defined circumstances, and to the end that the mistaken but honest inventor may ob-

tain relief from the old rule, the disclaimer provisions permit him to deprive the public temporarily of complete freedom from the assertion of a monopoly apparently valid, but not so in fact. *When a competent court has declared his pretensions without sufficient foundation, we think good faith and the spirit of the enactment demand that he act with such promptness as the circumstances permit either to vindicate his position or to relieve the public from further evil effects of his false assertion.*"

And again the Court says (p. 455):

"When the District Court in Ohio declared claim 2 invalid, the owner of the patent might have appealed to the Circuit Court of Appeals within thirty days and thus secured an early determination of his rights. He did not choose this course but continued to hold himself out as possessor of the sole right to 'make, use and vend' under the rejected claims, for nearly two years. Then he abandoned it. He made no effort promptly to vindicate what he had asserted nor did he surrender it. Thus he failed to earn the offered exemption and now he may not complain."

And again on page 457, the Court says:

"Certainly, in this case where an appeal was taken by the defendants, it would have entailed no unreasonable hardship upon the patent owner promptly to have submitted the legality of the rejected claim for determination by the appellate court. The route to that end was obvious, easy, inexpensive. He deliberately failed to defend his assertion of right by appealing. He has been guilty of unreasonable delay and has not brought himself within the beneficient provisions of the statute."

The opinions in the Ensten cases show conclusively that claim 2 of the patent there involved was decreed invalid *in view of the prior art;* therefore, the patentee had "claimed more than that of which he was the original or first inventor or discoverer." The decree having been entered and an appeal having been taken to the Court of Appeals by the defendant as to the validity of claims 1, 3, 4, and 5,

within the time allowed for appeal from an interlocutory decree, and the plaintiff having taken no appeal from the interlocutory decree holding claim 2 invalid in view of the prior art, the decree of the trial court became final as to claim 2 and the patentee was thus under the immediate obligation of filing disclaimer if he desired to maintain the rest of his patent under the disclaimer statutes. Such a disclaimer was "necessary" under the statutes and decisions. The patentee filed no such disclaimer of claim 2 for nearly two years and under these circumstances the lower court, Court of Appeals, and the Supreme Court held the patent invalid because of failure to promptly file the disclaimer.

In the instant case, no such situation exists as in the Ensten case referred to for the following reasons:

In the instant case—

1. Claim 37 of the Parker patent does not claim more than that of which Parker was the original or first inventor or discoverer nor "materially more than that which he was the first to invent."

2. The Master recommended that claim 37 drawn to a sub-combination be decreed invalid only because it was indefinite and hence did not comply with Section 4888, R. S., and because he "considered that the other claims amply protect the invention." There is no possible interpretation of the Master's report that Parker by claim 37 claimed more than that of which he was the "original or first inventor or discoverer."

3. Here no decree has ever been entered holding claim 37 of the Parker patent invalid. Quite the contrary Judge James held *that where no final decree had been made adjudging any claim of the patent to be invalid,* the patentee was not required to disclaim (R. 633).

4. Had not plaintiff filed a disclaimer of claim 37

prior to the entry of the decree it would have been at liberty to have raised and argued, without taking an exception, the legal conclusion as to whether claim 37 was valid under Section 4888 of the Revised Statutes and could have appealed from the portion of any decree holding claim 37 invalid. Therefore, as stated by the Supreme Court, 282 U. S. 453:

"The allowance of his claim by the Patent Office raises such a presumption in its favor that he may rely on its validity until a court of competent jurisdiction decides it is broader than his real invention."

and page 454:

"The patentee had a right to insist upon it and not disclaim it until the highest court to which it could be carried had pronounced its judgment."

5. The mere failure to file exceptions to a Master's report, on a conclusion of law, does not prevent the party not taking exceptions, from raising and arguing a question of law such as that involving the question of whether a claim complies with Section 4888, R. S., or not, nor does it prevent his having the Court of Appeals thereafter review the decree of the District Court thereon.

6. Until a decree has been entered finally holding a claim invalid and this decree has either been affirmed by the highest court to which an appeal may be taken or in which review may be had or where no appeal has been taken within the time permitted by statute, a patentee who has had a claim allowed to him is under no obligation to file a disclaimer to that claim under the Federal Statutes, even where he claims more than that of which he was "the original or first inventor or discoverer."

7. Parker, having claimed no more than that of which he was the original or first inventor or discoverer, was under no obligation to file any disclaimer of

claim 37, even though the Master recommended that a decree be entered holding this claim invalid because of indefiniteness and that the other claims amply protect the invention. It was unnecessary for him to do so.

8. Parker, having filed a proper disclaimer of claim 37, even though he was the inventor of the subject matter thereof, was not required by any statute to do so in order to maintain his patent.

9. The owner of the Parker patent cannot be charged with any delay in the entering of the final decree in that case or in the filing of a disclaimer of anything it saw fit to disclaim prior to the entry of a decree or failure to appeal therefrom.

10. There is no possible theory on which delay could be predicated, even though the situation in the present case required a "necessary" disclaimer, which it does not.

11. The Federal Statutes do not require any disclaimer whatsoever unless *"the patentee has claimed more than that of which he was the original or first inventor or discoverer."* This Parker has not done nor did the Master so hold. Under such circumstances, Parker was entitled to file his "proper" though not "necessary" disclaimer when he did or in fact at any time prior to the expiration of his patent, if he so desired. Even in the Ensten case, upon which the defendants largely rely, the Supreme Court clearly recognized that the time for filing even a necessary disclaimer does not start to run until a court of competent jurisdiction has entered a decree or judgment from which no appeal can be taken holding that "the patentee claims materially more than that of which he was the original or first inventor" and also that where an appeal may be taken from or other review

had of a decree so holding, and the time has not run for taking such appeal or seeking other review, the patentee is not required to disclaim a claim held invalid "until the highest court to which it could be carried had pronounced its judgment."

CONCLUSION.

The Parker invention was projected into an art which had for years been given careful attention and study by the best elevator engineers in the country and elsewhere.

The use of it in connection with the Otis "Signal Control" elevators solved a long existing and perplexing problem which remained unsolved by their experts or by anyone else.

It revolutionized vertical transportation (R. 121) and has been responsible for a new "Signal Control" type of electric elevators.

It has gone into extensive use and is generally demanded by the better trade.

When the Parker "Control" is applied to any of the previous highly complicated elevator mechanisms, it so harnesses and controls them that

> "the starting of the car, either up or down in the shaft, is entirely and singly within the manual control of the car operator."

and

> "the stopping of the car at predetermined points in its ascent or descent may be automatically attained."

The use of the Parker "Control" in connection with any of the previous highly complicated, attendant-operated elevators entirely eliminated the serious objections theretofore common in connection with the use of such elevators of the operator running by or failing to stop at a floor desired by a passenger riding in the car, or of failing to

stop for persons waiting at any of the landings, while the elevator is traveling in either direction.

The facts shown by the testimony that the invention was made by a non-member of the elevator industry; that elevator engineers had realized the pressing need for accomplishing the Parker result without providing any means for solving it; that it could be and was readily adapted for use, by the Otis Elevator Company, in connection with the highly developed Otis elevators, who purchased the patent upon a realization of what the invention would accomplish in use; that defendants, inspired by the success of plaintiff's "Signal Control" elevators, copied them, and in so doing, utilized the Parker "Control" instead of the art upon which they relied to limit or defeat the Parker patent, is a demonstration that Parker made a radically new invention of highly meritorious character.

The Master, who saw and heard all of the witnesses, and examined both plaintiff's and defendants' installations which utilize the Parker invention, on at least two occasions, clearly understood them. He was clearly right in holding claims 3, 22, 29, 40 and 65 valid and infringed. He gave each of these claims the interpretation to which each is clearly entitled. Claim 41 is also infringed.

The lower court was right in dismissing defendants' motion to dismiss based on plaintiff's disclaimer of claim 37.

The lower court was right in holding the claims valid. His failure to appreciate the character of the Parker invention, what the Parker patent disclosed, and his failure to realize that the prior art showed nothing which could accomplish the result of the Parker "Control," led to his erroneously and unwarrantably restricting the language of the claims, each of which clearly includes within its proper scope the defendants' structure.

The finding of the Master that the Parker patent is valid

over the numerous original defenses including inoperativeness, invalidity in view of the prior art, invalidity of the reissue, should be approved. So much of the decree as finds non-infringement should be reversed and the lower court directed to change its decree accordingly, and to award the plaintiff an injunction, an accounting and costs as prayed.

Respectfully submitted,

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Plaintiff.

No. 6996.

IN THE

United States
Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Otis Elevator Company,
Plaintiff-Appellant and Cross-Appellee,

vs.

Pacific Finance Corporation and Llewellyn Iron Works,
Defendants-Appellees and Cross-Appellants.

BRIEF FOR DEFENDANTS.

FREDERICK S. LYON,
LEONARD S. LYON,
RICHARD F. LYON,
National City Bank Bldg., 810 S. Spring, L. A.,
Attorneys for Defendants.

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Walker on Patents (6th Ed.) p. 491, Sec. 402 167

Walker on Patents (6th Ed.) pp. 772, 774 5

No. 6996.

IN THE

United States
Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Otis Elevator Company,
Plaintiff-Appellant and Cross-Appellee,

vs.

Pacific Finance Corporation and Llewellyn Iron Works,
Defendants-Appellees and Cross-Appellants.

BRIEF FOR DEFENDANTS.

STATEMENT OF THE CASE.

This is a suit in equity brought in the Southern District of California by Otis Elevator Company against Pacific Finance Corporation and Llewellyn Iron Works for alleged infringement of Reissue Letters Patent No. 16,297, entitled, "Control For Electric Elevators." The cause was referred for trial before a special master. On February 25, 1930, the special master filed a report recommending that a decree be entered finding that claims 3, 22, 29, 40, 41 and 65 of the patent are valid; that claims 3, 22, 29, 40

and 65 are infringed by defendants; that claim 37 is invalid, and that claim 41 is not infringed. The defendants filed exceptions to the report of the special master. No exceptions were filed by the plaintiff.

The cause was orally argued before the court on October 15, 1930 on defendants' exceptions, and submitted on briefs. On May 1, 1931, the plaintiff filed a disclaimer in the United States Patent Office as to claim 37. A motion was then made by defendants to dismiss the case on the ground that the plaintiff had unduly delayed the filing of its disclaimer. This motion was based on the decision of the Supreme Court in *Ensten v. Simon Ascher & Co.,* 282 U. S. 445 (75 L. ed. 453), decided February 2, 1931. The motion to dismiss was argued to the court and taken under submission.

On October 2, 1931, Judge James rendered his written opinion, finding that the patent in suit could be sustained only by limiting the claims to the particular forms of structure described in the patent; finding that the defendants had not infringed the patent so construed; and denying the motion to dismiss based on the delay in filing the disclaimer. A final decree of dismissal was rendered in this cause on November 30, 1931. Following the practice approved by this Court in *Parker v. St. Sure,* 53 Fed. (2d) 706, an order was entered adopting the written opinion of the court as the findings of fact and the conclusions of law in this cause. The findings of fact and conclusions of law of the special master were not adopted or approved. It follows that the findings of fact and conclusions of law made by the court—not those of the master as urged by the plaintiff—are presumptively correct on this appeal.

Plaintiff has appealed from the decree below and assigns as error the findings, that the claims may be sustained only if limited to the particular forms of structure shown in the patent in suit, and that the claims are not infringed by the control system for elevators used by defendants and complained of herein. The defendants have taken a cross-appeal and assign as cross-errors the findings below that the claims are valid at all, and the denial of the motion to dismiss based on the delay of the plaintiff in filing its disclaimer as to claim 37. The cross-appeal may be superfluous. Defendants can urge the cross-assignments of error on plaintiff's appeal.–

Walker on Patents (6th Ed.) pp. 772, 774;

Electric Gas Lighting Co. v. Fuller, 59 Fed. 1003 (C. C. A. 1st Cir.);

Crown Cork and Seal Co. v. Aluminum Stopper Co., 108 Fed. 845 (C. C. A. 4th Cir.);

United States Consolidated Seeded Raisin Co. v. Selma, 195 Fed. 264 (C. C. A. 9th Cir.)

The cross-appeal was taken solely to preclude any argument that the defenses to which the cross-assignments of error relate are before this Court for consideration. Accordingly, an order was entered in this cause on January 3, 1933, by the Senior Circuit Judge, granting leave to defendants to include in this brief the argument on the cross-assignments of error.

The Issues.

The problem of controlling high-speed passenger elevators has assumed new proportions in recent years. The speed of elevators has increased with the increase in the height of buildings [R. 52] and has now reached the

point where an operator in a car does not have time to distinguish a particular floor and bring the car manually to a proper stop [R. 194]. When this point was reached, the obvious thing to do was to stop the elevator automatically. Automatic-stopping push-button elevators were well-known in the art. They have been used in slow-speed apartment-house elevators for many years. They had not been used in high-speed office-building elevators because the art knew no means by which such high-speed elevators could be accurately slowed down to stop level with a floor landing.

The patentee of the patent in suit was not skilled in the elevator art. He says that the idea came to him of stopping an elevator by a push-button on the occasion of a visit to a hotel in Detroit, when he was annoyed because the elevator did not stop for him in response to a push-button. If he had known the elevator art, he would have been aware that elevator engineers knew full well how to automatically stop an elevator car from a push-button. Apartment-house elevators of this kind had been running in this country for many years. He would also have known that the reason passenger elevators in the larger office-buildings were constructed so that the push-buttons would signal the operator to stop the car, but would not automatically stop the car, was because no means had yet been invented whereby an elevator moving at high speed could be automatically slowed down so as to stop level with the floor. For this reason, automatic push-buttons had only been used in relatively slow-moving elevators, such as were found in apartment-houses, where the traffic in the elevator was not great.

Parker did not stop to learn these things, but rushed to a patent attorney and they drew up the form of elevator control, illustrated in the patent in suit, purely as an hypothesis. They asserted in the patent in suit that they could automatically stop the car level with the floor from the push-button, but in so asserting either had in mind that their invention would be used only in slow-speed elevators, or they were mistaken. They made no test and the patentee admitted at the trial of this case that he did not then know whether the apparatus shown in his patent would operate. The patent is purely a paper patent. It is claimed by plaintiff to be responsible for the modern type of automatic-stopping high-speed elevators, but this is not true.–

> "And here it may be stated that neither the control system of Parker, nor any of those included in inventions theretofore made, were adapted to the operation of fast moving elevators such as are necessary to be used in buildings containing many stories, like the modern sky-scraper." [Judge James,– R. 640.]

The brief for plaintiff entirely misrepresents to this Court the alleged invention of the patent in suit. Plaintiff says that the patent is to be broadly construed, because Parker, a non-member of the elevator industry, was the first to solve the problem of automatically stopping high-speed passenger elevators. This is not true. Such problem, if it was a problem, was not solved by Parker. The mechanism disclosed in the patent in suit could not be used in a high-speed elevator and is for many reasons inoperative and lacking in utility, even if employed in a slow-speed, apartment-house elevator. Plaintiff has encumbered the record with exterior pictures of buildings

which have been equipped with plaintiff's so-called "Signal Control" elevators. These are said to be the elevators of the patent in suit. This is not true, as found by the lower court.–

> "Parker never constructed or had constructed an installation demonstrating his system; neither does it appear that the plaintiff here, who purchased his patent, has ever used it in the form taught and specified in the patent." [R. 641.]

Plaintiff says that this fact is not material in this case (Pl'ffs Br., p. 122). Counsel have overreached themselves here. One of the counsel whose name appears on Plaintiff's Brief, is a much respected former judge of this Court. In *Henry v. City of Los Angeles,* 255 Fed. 769, he considered the effect of this precise fact on the interpretation to be given to the patent there in suit and, in writing the opinion of this Court, said:–

> "It is also to be considered that there never has been a water wheel governor constructed in accord with the drawings and specifications of the patent in suit—that is, a governor constructed and using all the principles of governing revealed in the patent. The Court of Appeals of the Sixth Circuit in National Malleable Castings Co. v. Buckeye M. I. & C. Co., 171 Fed. 847, 96 C. C. A. 515, said:
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> " 'The use we make of the fact that the device has never gone into actual service is in the construction or interpretation of the patent. We are justified, in view of the facts of this case, in exercising much caution in attributing to this patent anything more than is plainly shown and distinctly claimed. * * * This inference from nonuse, under the circumstances, is the converse of the inference drawn with respect of

> a doubtful patent when a showing is made that it has gone into large use and has displaced other devices. It is an inference against utility from the fact of long nonuse, unexplained by want of means or opportunity."

This rule was there applied although the plaintiff contended that the rule did not apply because devices had been constructed under and within the claims of the patent, although admittedly not in accord with the specification and drawings.

That Parker made no such invention as plaintiff here represents, is further corroborated by plaintiff's conduct. The application for the original patent was filed April 25, 1921. In 1922 it was submitted by Parker to plaintiff [R. 76, 97]. No attention was paid by plaintiff to the patentee or to his alleged invention until the fall of 1925, after the original patent had issued and plaintiff had learned of the installation by defendants in Los Angeles of an elevator of the type complained of herein [R. 423]. The patent was then purchased by plaintiff for the purpose of obtaining a reissue to suppress the defendants' elevators [R. 79, 98]. In the meantime plaintiff had independently developed its own separately patented, so-called "Signal Control" system and had installed the same in the Standard Oil Building in New York City. Parker admits he had no part in the development of this Signal Control system [R. 97]. Plaintiff owned no interest in Parker's alleged invention until after its Signal Control system had been developed and installed [R. 97]. Plaintiff admits that prior to any alleged invention by Parker its own engineers had considered the automatic stopping of high-speed passenger elevators and that the obvious way

to do so was by push-buttons at the floors and in the cars [R. 228, 263, 266]. The work was delayed because of the press of other business [R. 263]. The features in plaintiff's Signal Control system which enable a high-speed passenger elevator to be automatically slowed down and stopped are covered by numerous other patents obtained by plaintiff, not here in suit, and at the trial of this cause plaintiff stipulated that these embodied inventions apart from the Parker patent in suit [R. 199, 200, 257, 260]. Plaintiff did not consider Parker had contributed anything of substantial value. It refused to pay him five thousand dollars [R. 98]. Plaintiff purchased the entire title to the alleged Parker invention for the sum of two thousand dollars [R. 98]. This is indeed "a small sum of money," as stated by Judge James, for a patent under which plaintiff pretends to have manufactured thirty-three million dollars worth of elevators! The patent was purchased only as a speculation, to be used by plaintiff as the basis for this litigation.

The master reached the erroneous conclusion that Parker had made a broadly new invention. The patent in suit states that the only change in an elevator contemplated by Parker is in the control switch situated within the car.–

> "No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself." (Patent, p. 1, lines 49-53.)

This change consisted in so constructing the car-switch that the operating lever 3 could be returned to neutral independent of the contacts 9 and 9′ and the addition of magnets having coils 32 and 32′ to hold the contacts 9 and

9′ in closed position and coils 37 and 37′ to release the contacts 9 and 9′ on completion of the push-button circuits. This being the only change made by Parker in an elevator, any invention in the patent must reside in this change. This is the only means disclosed in the patent for automatically stopping the car in response to push-buttons. Neither the plaintiff nor the defendants use any such means. It would be impossible to use such a means with high-speed elevators. The master found that this means was a step backward, and not an advance, in the art.–

> "The actual form of his car switch is possibly a new form of a self-holding switch but it is evident that his form of switch was not an improvement. It was but a crude conception when compared with older means. At that time engineers had learned to put as many of the control circuits as possible in the penthouse and not in the car. It would be a step backward to bring the secondary circuits through the car." [*Master's Report*,– R. 562.]

This finding removes any possibility of any broadly meritorious invention in the patent.

The conclusion of the master that Parker made a broadly new invention was predicated upon the erroneous finding of the master that there was no means in the prior elevator art for holding the running circuits closed independently of the car-switch and means for releasing the running circuit to stop the car automatically [R. 567]. Such a means is specifically disclosed in the prior patents to Ihlder and Strohm, as we shall demonstrate in this brief. Judge James specifically reversed the finding of the master that there was any broadly new invention in the patent in suit.–

"On the record presented, to which I have given careful and painstaking study, I am totally unable to agree with the master; my conclusion, to the contrary, is that when Parker conceived his invention, the art of elevator control by electrical means, if not already crowded, was certainly well occupied. Considering his elements separately, there was nothing at the time new in the use of push buttons at the floors or in the car which would operate through electrical magnets to connect and disconnect the current feeding the hoisting motor; there was nothing new in a selector means moving synchronously with the elevator car to make and break auxiliary circuits; there was nothing new in a circuit arrangement by which push buttons would be reset after being operated through coil wound magnets. At the time Parker conceived his invention, the type of electrically controlled elevators, such as is common in apartment houses and some business buildings, whereby, by means of push buttons at floor landings and in the car, the elevator can be started and will be stopped automatically, was in common use." [R. 638.]

The master reached the conclusion that the defendants' elevators infringe the patent in suit. He reached this erroneous conclusion because he first mistakenly found that there was a broadly new invention in the patent in suit, and, having made that finding, made the second mistake of in effect holding that any means which would perform the function of automatically breaking the running circuit to stop the car would be an infringement of the patent. Irrespective of the breadth of the invention, it was an error of law to conclude that any elevator control which would perform this function was an infringement of the patent. In the leading case of *Westing-*

house v. Boyden Power Brake Co., 170 U. S. 537, 42 L. ed. 1136, the Supreme Court held that even a pioneer patent for a machine is not infringed because the machine of the defendant performs the same function, unless accomplished by substantially the same or similar means as those described in the patent. In that case Mr. Justice Brown said:–

> "The difficulty we have found with this claim is this: That, if it be interpreted simply as a claim for the function of admitting air to the brake cylinder directly from the train pipe, it is open to the objection, held in several cases to be fatal, that the mere function of a machine cannot be patented. (p. 1143.)
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> "To what liberality of construction these claims are entitled depends to a certain extent upon the character of the invention, and whether it is what is termed in ordinary parlance a 'pioneer.' * * * At the same time, as hereinafter observed, this liberality must be exercised in subordination to the general principle above stated: that the function of a machine cannot be patented, and hence, that the fact that the defendants' machine performs the same function is not conclusive that it is an infringement. (pp. 1145-6.)
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> * * * * * * * * *
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> "But, after all, even if the patent for a machine be a pioneer, the alleged infringer must have done something more than reach the same result. He must have reached it by substantially the same or similar means, or the rule that the function of a machine cannot be patented is of no practical value." (p. 1148.)

Because he found no invention in the patent except when limited to the particular form of structure therein

described, Judge James held that the scope of the patent and the range of equivalents allowed must be restricted narrowly to means which substantially embody the things described and specified in the patent, saying:–

> "Hence, it must be determined that this patentee, insofar as his system exhibits invention, is limited closely to the form and structure described, and that the range of equivalents allowed to him is restricted narrowly to those which substantially embody the things that he describes and specifies." [R. 639.]

The rule applied by Judge James is in exact accord with the decision of this Court in *Randall Control & Hydrometric Corp. v. Elevator Supplies Co.,* 15 Fed. (2d) 767, in which this Court settled the rule to be followed in this Circuit in interpreting the scope of patents in this art. The apparatus involved in that case is in fact included in the defendants' elevators and is part of the structure asserted here to infringe the patent in suit. The court below had found infringement for the reason primarily that the defendant's system performed the same functions as the patent there in suit. In reversing the decree in that case, Judge Hunt said:–

> "Nor do we think that the single master switch used by the appellant should be held to be merely the equivalent of Newell's stops on his hatch gate. The results produced by Newell and by appellant are the same, but the mechanism and operation are substantially different, and, in the light of the state of the art when Newell's invention was patented, we think that the rules applicable to strict construction must guide us. Miller v. Eagle Mfg. Co., 151 U. S. 208, 14 S. Ct. 310, 38 L. Ed. 121; McCormick v. Talcott, 20 How. 402, 15 L. Ed. 930; Elevator Supplies Co.

v. Boedtcher (C. C. A.), 11 F. (2d) 615; Goodyear, etc., Co. v. Davis, 102 U. S. 222, 26 L. Ed. 149." (P. 769.)

Plaintiff here contends that the defendants' elevators infringe because they perform the function of automatically stopping in response to push-buttons. This is fundamentally unsound in law. The idea of automatically stopping in response to push-buttons could not be patented, even if it were new with Parker (which it is not). He could only patent the means which he devised by which that function could be accomplished.–

"Patents for a machine will not be sustained if the claim is for a result, the established rule being that the invention, if any, within the meaning of the Patent Act, consists in the means or apparatus by which the result is obtained, and not merely in the mode of operation, independent of the mechanical devices employed; nor will a patent be held valid for a principle or for an idea, or any other mere abstraction." (*Fuller v. Yentzer*, 94 U. S. 288, 24 L. ed. 103.)

"We find here no authority to grant a patent for a 'principle' or a 'mode of operation', or an idea, or any other abstraction. A machine is a concrete thing, consisting of parts, or of certain devices and combination of devices. The principle of a machine is properly defined to be 'its mode of operation,' or that peculiar combination of devices which distinguishes it from other machines. A machine is not a principle or an idea. The use of ill-defined abstract phraseology is the frequent source of error. It requires no great ingenuity to mystify a subject by the use of abstract terms of indefinite or equivocal meaning. Because the law requires a patentee to

> explain the mode of operation of his peculiar machine, which distinguishes it from others, it does not authorize a patent for a 'mode of operation as exhibited in a machine.' Much less can any inference be drawn from the statute, that an inventor who has made an improvement in a machine, and thus effects the desired result in a better or cheaper manner than before, can include all previous inventions, and have a claim to the whole art, discovery, or machine which he has improved. All others have an equal right to make improved machines, provided they do not embody the same or substantially the same devices or combination of devices, which constitute the peculiar characteristic of the previous invention."
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> (*Burr v. Duryee,* 1 Wall. 531, 17 L. ed. 650, at 657.)

Pursuant to these fundamental principles of patent law, Judge James held that the determination of the issue of infringement depends upon "the necessary comparison between the Parker system and the one as to which the charge of infringement is based" [R. 644]. This is true whether the patent be strictly construed (within the rule of *Randall Control & Hydrometric Corp. v. Elevator Supplies Co.,* followed by Judge James) or be given the widest interpretation of a pioneer patent (as in *Westinghouse v. Boyden Power Brake Co.*) The patent cannot be infringed, no matter what its breadth may be, unless the defendants' elevators employ substantially the same means, to perform the same function, in substantially the same way.

Plaintiff says in its brief that Judge James found that the master's report properly describes the operation of defendants' system. This is not so. The master made

a fundamental mistake as to how the defendants' system operates, and this mistake was recognized and corrected in the opinion of Judge James [R. 642]. The sentence from the opinion of Judge James relied upon by the plaintiff as approving the master's description of the operation of defendants' system is followed by a detailed statement by Judge James as to wherein the master was in error concerning how the defendants' system operates.

The master found that the completion of the circuit through the push-buttons and 2U or 2D switches in the defendants' system breaks the holding circuit to initiate the stopping of the car and that these stopping circuits and circuit-closing means are equivalent to the means disclosed by Parker. Judge James correctly finds in his opinion that the completion of the circuit through the push-buttons and 2U or 2D switches in defendants' system does not break the holding circuit to initiate the stopping of the car, but that the holding circuits and running circuits are opened by the 4MS switch on the leveling drum No. 4 [R. 643]. The operation of defendants' system depends upon maintaining the holding and running circuits closed until after the car has stopped. It is not stopped by the completion of circuits from the push-buttons through the floor selector opening the holding or running circuits.

Judge James made a careful comparison between the means disclosed in the Parker patent and those employed in defendants' elevators, and found that there was no similarity or substantial identity whatsoever between them. He found that the means employed by the defendants are so essentially and entirely different from those described in the patent that any attempt to modify the

means described in the patent to correspond to those employed by the defendants would result in utterly changing, obliterating and losing all the essential means of the patent, saying:—

> "Before referring particularly to the exceedingly complicated mechanism of the defendants' elevators, which are claimed to embody infringement of the Parker patent, it may be stated that I am unable to conclude that the Parker system could by any reasonable modification be transplanted into the elevator control system of the defendants; any attempt so to do would result in the essential means described by Parker being utterly changed, obliterated and lost so that no substantial identity could be ascribed to the resulting combination." [R. 640-1.]

It is legally impossible to hold that the defendants' system infringes the patent in suit, if this finding stands. Plaintiff in its brief makes no attempt to show that this finding is wrong. Plaintiff goes no further than to assert that the claims in suit in words read on the defendants' elevators. This is possible only because the claims are purely functional in character. The fact that defendants' elevators may have some means for performing the functions recited in the claim does not show that the defendants' elevators have the means claimed in the patent or their equivalents. An equivalent must perform the same function in substantially the same way. Plaintiff has not and cannot show that the "means" employed in defendants' elevators are similar to or operate in substantially the same way as the "means" described in the patent. Judge James found there was no similarity whatever. This Court has many times ruled that infringement is not established merely because claims read in terms on the

defendant's device, and that where the claims are in the form of those in issue here, the term "means" in the claim is limited to the means described in the patent.–

> "To permit a patentee to burden his claims by the use of indefinite language would lead to supporting him in a monopoly of a principle or result, which would bar other inventors from arriving at the same result by different means. In Walker on Patents, Section 117a, p. 137, the author says:
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> " 'Where some of the parts of a combination operate therein to give motion to other parts which do the final work of the combination, it is proper to specify the former by the use of such terms as 'means,' 'mechanism,' or 'devices' for giving that motion, except when these terms are applied to an element or part which constitutes the essence of the invention. If they are used under such circumstances, the claim will be regarded as functional. But such general language will not include all means, mechanism, or devices which can perform that function, but only those which are shown in the patent and their equivalents. And in this case, also, the question whether other means, mechanism, or devices are equivalents to those shown in the patent will be determined by the established rules on that subject, rather than by any apparent precision or elasticity of the language used in the claims to designate the parts involved in the inquiry.' "
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> (*Henry v. City of Los Angeles,* 255 Fed. 769, at 779.)

Plaintiff has accused us of wilfully complicating and confusing the issues of this case because we have and do insist that a comparison must be made of the structures involved to determine the issues of validity and infringement. Judge James has correctly interpreted the law in

the statement in his opinion that anyone who essays to determine these issues must make the necessary comparison between the structures described in the patent in suit and defendants' alleged infringing elevators. In his opinion Judge James refers to the complexity of the system, as follows:—

> "An understanding of the design and working of the Parker invention can be quite readily understood, because it is comparatively simple. An understanding of the complicated apparatus used in the defendants' installation requires concentrated effort of many hours duration and involves the examination of a multitude of schedules and drawings. It is impossible to follow in detail a description of defendants' elevator system without resort to the drawings and schedules,—hence a closely particularized description cannot be set forth in any opinion unless the formal data referred to is made a part of it. [R. 634.]
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> * * * * * * * *
>
> "I have arrived at an understanding of the complicated picture by close and arduous study, more study in fact than I have found necessary to devote to any case presented during my experience on the bench. It will not be useful now or helpful to an Appellate Court for me to attempt here to analyze the system at length. Any judge who essays the necessary comparison between the Parker system and the one as to which the charge of infringement is based, will have before him the same task that I had." [R. 643-4.]

We have throughout this case and will continue to present the issues in the simplest and clearest manner of which we are capable. The structures involved in this case are complex, and to comprehend them involves a long and tedious study. They can be understood only from

diagrams of electrical circuits which are ordinarily expected to be understood only by skilled elevator engineers, and not by the layman. The master in his report says of these diagrams:—

> "It is only with the assistance of expert engineers that the lay mind can reach an understanding of the simpler diagrams. Plaintiff's Exhibit 4-X illustrates the extreme complexity of the whole structure."
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> [R. 576.]

This difficulty apparently led the master to his erroneous finding as to how the defendants' elevators operate. Plaintiff's experienced elevator engineer and expert witness testifies that it took him about two weeks to understand the diagrams of the defendants' elevators and he doubts if anyone could do so in less time [R. 151].

We fully appreciate the enormity of consideration that this case requires of this Court. We have no fear but what this Court will come to an understanding of the structures involved, as did the court below. It is natural for plaintiff to say that this cause should not be complicated by a comparison of the structures involved, because plaintiff cannot hope to prevail if such a study be made. The issues here cannot be correctly determined, or justice done, unless the study made by Judge James is repeated by this Court.*

The structures involved in this case are composed primarily of numerous electrical circuits. We have found that the best way to understand these circuits is to consider them one at a time. It is difficult to understand a particular circuit from a drawing in which it is entangled with a maze of other circuits. We find it much simpler to use separate diagrams for the various circuits under con-

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*(except if the Court sustain our defense that the cause should be dismissed because of the delay of plaintiff in filing a disclaimer as to claim 37 after the decision of the master finding that claim invalid. This involves an issue of law only.)

sideration. For this purpose we have reproduced at the end of this brief a number of individual diagrams, comprising the separate circuits, to which attention is directed in the course of this brief. These are exact reproductions from the drawings and diagrams printed in the Two Volumes of the "Book of Exhibits", where the same circuits appear, with the same reference characters, but complicated by the presence of other circuits.

The decree in this case may well be affirmed solely on the defense sustained by the court below, in which event it is unnecessary to consider and determine the remaining defenses. The defense sustained below is fully supported by two findings of fact made by Judge James:

(1) that the novelty and invention in the patent in suit is limited closely to the form and structure described, and

(2) that there is no similarity whatsoever between the means employed in the defendants' elevators and the means described in the patent in suit.

These findings are presumptively correct. There is no conflict in the evidence as to the form and mode of operation of the devices in issue. Either of these findings compels the conclusion that the patent in suit has not been infringed. There are a number of other defenses presented by this record. Some of these were overruled below, and some were not passed upon below. The defense sustained by the court below, together with the remaining defenses in the record, are all presented hereinafter in the order in which they may be most readily considered. These may be briefly outlined as follows:–

(1) The patent in suit is void because it is totally lacking in invention;

(2) The patent is void because

(a) the means described in the patent are inoperative;

(b) the means described in the patent are lacking in utility;

(3) There is no infringement because

(a) a patent cannot cover every means of performing a function or a combination of functions, and is limited to the means described in the patent and their equivalents;

(b) the means employed by defendants are not similar to or the equivalent of the means described in the patent, irrespective of the scope of the invention;

(c) the patent must be limited to the particular means described in the patent, because

1st,– the only novel feature in the patent is a particular change in the car-switch structure, and this has never been employed by either the plaintiff or defendants, and, as found by the master, is not an improvement, but a step backward in the art;

2nd,– the patent is a mere paper patent, and no one has ever attempted to make or operate an elevator like that described in the patent;

(4) The defendants in any event do not infringe claim 3, which is the only claim of the original patent in issue, and in view of the Intervening Rights of defendants they cannot be held to infringe the reissue claims;

(5) The patent is wholly void, as a matter of law, because the intentional delay of plaintiff in disclaiming claim 37, following the Report of the Special Master that such claim was invalid, bars plaintiff from the curative provisions of R.S.U.S. §4917 and 4922, and the patent in suit is consequently totally void. (*Ensten v. Simon Ascher & Co.,* 282 U. S. 445, 75 L. Ed. 453.)

THE PARKER PATENT.

The brief for plaintiff emphasizes the results that are alleged to have been accomplished by Parker in the patent in suit, and minimizes the means by which such results are accomplished. The results accomplished are not the primary consideration. The thing patented is the particular means devised by Parker by which the result is attained, and it is open to any other inventor to accomplish the same result by other means. This is an elementary principle of patent law. Plaintiff states that Parker invented a "Control" which can be "harnessed" to any car-switch type of lever made before or after the Parker patent (Pl'ffs Br., pp. 24, 25, 26.) By this statement plaintiff attempts to assert that there is described in the Parker patent certain electrical mechanism which can be taken and merely added to any "usual" car-switch elevator and enable that elevator to be stopped automatically. Plaintiff does not identify this mechanism in its brief. The evidence shows that the "Control" of the Parker patent could only be employed with an elevator operating at slow speed. The evidence also shows that neither plaintiff nor defendants has employed the "Control" of the Parker patent. It is important, therefore, that the Court have a thorough understanding of the means described in the patent in suit. It is not necessary for us to here repeat the detailed description of those means embodied in the specification and drawings of the patent. We shall mention only the features to which we desire to direct particular attention.

The elevator "Control" described in the patent in suit includes four principal circuits:

(1) a Primary Circuit;
(2) a Motor Circuit;
(3) a Secondary Control Circuit For A Car-Button; and
(4) a Secondary Control Circuit For A Hall Button.

These circuits we have reproduced in the drawings, Figures 1 to 4, inclusive, of this brief.

The Primary Circuit (Figure 1 of this brief).–

The term "Primary Circuit" is used in the Parker patent to designate the circuits that are closed by movement of the car-switch. The car-switch in the Parker patent is called the Master Control Switch and carries arms 9 and 9′ mounted independent of the operating lever 3. These arms are held against the operating lever by the force of the spring 6. The contact arm 9 of the Master Control Switch is intended to bridge the contacts 10 and 11 when the lever 3 is moved to the right. The arm 9 is to be held in this position, when the lever 3 is returned to the neutral position, by the holding coil 32. In the Figure we have shown the position of the car-switch parts as they exist after the lever 3 has been moved to the right to engage the contact arm 9 with the contacts 10 and 11 and then has been returned to the neutral position. Two circuits are closed by this operation.

The first circuit may be traced on the Figure as follows: From the positive main 12 through the line 14, through contacts 10 and 11 bridged by the contact arm 9, through wire 15, through one magnet 16 of the Pole Changing Switch, through the continuation of the line 15 to the negative main 13. In the Figure, we have illustrated only one coil of the Pole Changing Switch, as

only one is employed with the "up" circuit. We have also shown the contacts 20 and 21 of the Pole Changing Switch in the position occupied before the magnet 16 is energized. The function of the first circuit is to energize the magnet 16 of the Pole Changing Switch and move its contacts 20 and 21 into the position shown on Figure 2 of this brief. In such position, as we shall later describe in connection with Figure 2, the poles of the electric motor are connected to the proper mains to energize the motor in the direction to cause the elevator car to travel upwardly.

The second circuit closed by the car-switch energizes the holding coil. This circuit may be traced as follows: From the positive main 12 through the line 14, contacts 10 and 11 bridged by the contact arm 9 of the car-switch, through the holding coil 32, and thence by line 33 to the negative main 13. The coil 32 magnetically holds the contact arm 9 of the car-switch against the contacts 10 and 11 against the force of the spring 6.

The Motor Circuit (Figure 2 of this brief).–

The motor circuit may be traced as follows: From the positive main 12 through the line 25, through contacts 23 and 20 and post 18 of the Pole Changing Switch to the pole 27 of the motor 17, thence to pole 28 of the motor 17, thence through the post 19, contacts 21 and 24 of the Pole Changing Switch, through line 26 to the negative main 13. The operation of the Pole Changing Switch is to connect the poles 27 and 28 of the electric motor in the direction which will cause the elevator motor to move to drive the car upwardly. If the opposite magnet of the Pole Changing Switch has been energized, the arms 20

and 21 would have been thrown in the opposite direction and connected the poles 27 and 28 of the motor to the opposite sides of the line.

The Secondary Control Circuit (Car Button) – (Figure 3 of this Brief).–

The term "Secondary Control Circuits" is used in the Parker patent to designate circuits which include push-buttons, a floor selector, and a neutralizing magnet to release the car-switch contacts. The circuit illustrated on the Figure is for the second floor "up" car-button. The car-button in the patent is shown as having a pivoting arm b^2 and the operation of closing the car-button is to move this arm into engagement with the stationary contact d^2. The circuit also includes a floor selector. A floor selector is a device commonly employed in the elevator art long prior to the alleged Parker invention and has one switch for each floor served by the car so that an individual switch may be closed when the car arrives at a predetermined distance from the floor landing. These selectors are sometimes made by mounting switches in the hatchway and providing a device on the car which closes the switches when the car approaches the floors. They are also made by providing a device in the penthouse which has a traveling arm or carriage and is driven by the car to move this arm or carriage into engagement with certain switches as the car arrives at the different landings. The moving element of the Parker selector is the arm 34. This is illustrated in engagement with the contact f^2, which is the contact intended by Parker to stop the car at the second floor.

The circuit may be traced as follows: From the positive main 12 through the line 14, contacts 10 and 11 and contact arm 9 of the car-switch, line 35, through the reset coil e^2 of the "up" car-button, contacts d^2, b^2, and c^2, of the car-button, line h^2 to the selector contact f^2, thence through arm 34 to ring g of the selector, line 36, through the coil of neutralizing magnet 37, through the line 38 to the negative main 13. The neutralizing magnet 37 is wound on the same spool as the holding magnet 32, only in the opposite direction, and the effect of energizing the neutralizing magnet 37 is to neutralize the magnetic field of the holding magnet 32. This permits the spring 6 to throw the contact arm 9 of the car-switch to neutral position, opening the primary circuit to disconnect the Pole Changing Switch and shut off the power to the elevator motor.

The Secondary Control Circuit (Hall-Button) (Figure 4 of this Brief).–

We have illustrated the control circuit for stopping the car by the second floor "up" hall-button. When this button is pressed, it is intended that its contact j^2 be moved into engagement with its stationary contact l^2. This circuit likewise includes the contact f^2 of the floor selector and the neutralizing coil or magnet 37. The circuit may be traced on the Figure as follows: From the positive main 12 through line n^2, through the reset magnet m^2 of the hall push-button, through the post k^2 and contacts j^2 and l^2 of the hall-button, through the line o^2 to contacts p^2 and post c^2 of the car-button, line h^2 to contact f^2 of the selector, thence by arm 34 to the ring g of the selector, and by line 36 to the coil 37 of the neutralizing magnet and line 38 to the negative main.

The secondary control circuit for the hall-buttons functions similar to the secondary control circuit for the car-buttons. By energizing the neutralizing magnet 37 to oppose the force of the holding magnet 32, the contact arm 9 of the car-switch is released, permitting the spring 6 to pull the arm back to the "off" position. This opens the primary circuit to disconnect the Pole Changing Switch and shut off the power to the elevator motor.

Mode Of Operation.–

The patent in suit expressly states that the only change contemplated by Parker in an elevator system is in the car-switch (patent, p. 1, lines 49-53). This change consisted in mounting the car-switch contact plates 9 and 9′ to move independently of the lever 3; the provision of the holding magnet 32 and neutralizing magnet 37; and connecting the secondary control circuits from the floor selector to the neutralizing magnet 37. Otherwise the mechanism disclosed in the patent in suit is not claimed to differ from the mechanism in elevators in common use prior to any alleged invention of Parker. The running and primary circuits remain the same. The secondary controlling circuits remain the same, except that they are connected to the neutralizing magnet 37 in lieu of being connected to a bell or light in the car. The lever 3 of the car-switch may be returned to neutral without stopping the car, the contact plates 9 and 9′ being held in circuit-closing position by the magnet 32.

The car is caused to stop automatically by the secondary control circuit energizing the neutralizing magnet 37. This releases the contact plates 9 or 9′ of the car-switch

to open the primary running circuit. Opening the primary running circuit releases the pole-changing switch to interrupt the flow of power to the elevator motor. This is the mode of operation expressly described in the patent in suit.–

> "I will now proceed to describe those features of my invention whereby the automatic accurate stopping of the car at a predetermined desired floor level may be attained. This purpose is served by means for holding the switch-arms 4 and 4′ in their respective primary control circuit closing positions, with which are associated secondary electric control circuits for releasing the holding means of said switch-arms at proper times; said secondary control circuits being two in number, one serving the ascending travel and the other the descending travel of the car." (patent, p. 3, lines 13-26.)

A secondary controlling circuit completed through the floor selector opens the primary and running circuits to stop the car. This is the sole mode of operation of the mchanism described in the patent in suit. The patent specifically directs that this be the mode of operation.–

> "It is intended to retain the positive features of manual control, but to add to such an electrical mechanism which, upon being previously set, will interrupt the main driving or power circuit at predetermined points in the line of travel of the car."
> (patent, p. 1, lines 51-57.)

Plaintiff's expert witness Sessions has admitted in his testimony that the only mode of operation described in the Parker patent by which the car is caused to stop automatically in response to a push-button is that upon the completion of a secondary controlling circuit through

the floor selector the car-switch lever is released or unlatched to interrupt the flow of power to the hoisting motor.–

> "The only mode of operation disclosed in the Parker specification or the Parker drawing is that upon the circuit being completed through the floor selector, the lever that has been electrically latched in running position is unlatched to interrupt the flow of power to the hoisting motor." [R. 535.]

In other words, upon completion of a secondary controlling circuit all the running circuits are opened forthwith and there is no further flow of current to the elevator motor. This is confirmed by the testimony of Parker [R. 92].

Shutting off the flow of power to the elevator motor will not alone stop a moving car. Some braking means is also required. The patent directs that the "usual braking mechanism" be employed for this purpose.–

> "Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level." (patent, p. 5, lines 22-30.)

The braking means known and used at the time of the Parker patent consisted of brake-shoes, equipped with springs which normally forced the brake-shoes against the elevator motor or some other revolving part. This brake was provided with an electric magnet or magnets which were energized whenever the primary or running circuit was energized, so that the brake would be re-

tracted from the motor. Whenever the primary or running circuit was open, the magnet would be deenergized and the springs apply the brake-shoes to stop the car. Plaintiff's elevator engineer Crabbe illustrated how this brake mechanism would be included in the mechanism described in the patent in suit, following the directions of the patent, by a sketch which appears on Defendants' Exhibit "A" [R. 201-3]. He testifies:–

> "That represents a mechanical brake operated by a magnet and released by springs." [R. 202.]

There is no evidence of any other form of braking mechanism in the prior art which the patent contemplates is to be, or which could be, embodied in the mechanism described in the patent. Judge James correctly found:–

> "Braking means known and in use at the date of the patent, as I understand the evidence to show, included only a brake which might be operated electrically through a magnet, or by other power, and which would make contact with some of the revolving parts of the motor, or an attachment made therewith, so as to hold the motor in a locked position."
>
> [R. 640.]

The patent in suit does not describe or refer to any means for slowing down the elevator car prior to the application of the brake. The mode of operation described in the patent is solely that the brake is applied simultaneously with the completion of a secondary controlling circuit. There is no foundation whatsoever for the assertion in plaintiff's brief that the patent in suit contemplates the employment of any slow-down mechanism prior to the setting of the brake.–

> "This electrical mechanism becomes operative upon the simultaneous fulfillment of two conditions, one condition being the closing of a manually actuated secondary switch, under the control of the operator within the car, or, if desired, under the control of a passenger on a floor level at which the latter desires the car to stop so that he may enter the same, and the other condition being the automatic closing of another secondary switch in the same circuit, which momentarily occurs as the car reaches the desired floor level."
>
> (patent, p. 1, lines 58-70.)

From the foregoing the Court can now understand what the "Control" is that the patent in suit describes, which the plaintiff erroneously asserts could be "harnessed" to any car-switch elevator to stop such elevator automatically. This control consists of the following changes in an ordinary car-switch elevator:—

(1) Separating the car-switch contacts from the car-switch lever so that the lever can be returned to neutral independent of the car-switch contacts, and the addition of holding and neutralizing magnets so that the car-switch contacts can be electrically latched by the holding magnet in running position, and

(2) The connection of the well-known floor selector, customarily employed in prior elevators, to the neutralizing magnet to unlatch the car-switch to interrupt the flow of power to the hoisting motor,

having the following mode of operation:—

The completion of the secondary controlling circuit by the floor selector energizes the neutralizing coil 37 to release the car-switch contacts 9 or 9′, thereby opening

the primary and running circuits, simultaneously shutting off the power to the elevator motor and applying the brake.

We shall later show that none of the changes in prior elevators, stated in the patent to constitute the invention of Parker, are present in defendants' elevators, and that the means employed in defendants' elevators for automatically stopping the same in response to push-buttons are not the means described in the patent and do not operate by the mode of operation described in the patent. We shall show that in defendants' elevators the running circuits which are closed by the car-switch are not opened to stop the car. The stopping of the car in defendants' elevators is dependent upon the running circuits being maintained closed. We shall also show that in defendants' elevators the motor circuit is not interrupted by the floor selector to stop the car. We shall show that the function of the circuits completed through the floor selector in the defendants' system is entirely different from that described in the patent in suit and that the car continues to move under power for more than a floor after those circuits have ceased to exist.

Automatic Stopping Not Primary Object Of Patent.—

Anyone reading Plaintiff's Brief would understand therefrom that the paramount feature of the patent in suit is to be found in automatically stopping the car in response to push-buttons. If permitted to go unchallenged, this would result in a complete misunderstanding of the Parker patent. Automatic stopping of the elevator car in response to push-buttons is mentioned in the patent only as secondary to the primary object of the patent. The patent states that its principal object is to eliminate

the errors made by inexpert operators who bring an elevator car to a stop a few inches above or below the level of a floor.–

> "The invention has for its principal object to provide a novel system and means for controlling electric elevators of the general characters above mentioned, which is adapted to eliminate the errors made by inexpert operators, who bring the car to a stop a few inches above or below the proper level, * * *."
>
> (patent, p. 1, lines 39-45.)

Plaintiff totally ignores that this is the primary object of the patent in suit. The only means disclosed in the patent for avoiding inaccurate leveling of the car is that the contacts on the floor selector be so spaced or timed as to cause the brake to be applied when the elevator car is at some predetermined distance from the floor. We shall show that this was the customary means for causing apartment-house or slow-speed elevators to stop. This arrangement could not be used with a high-speed elevator. Means must be employed in a high-speed elevator to automatically slow down the car before the power is shut off from the motor and the brake applied or the car will not stop level with the floor. Both plaintiff's and defendants' elevators employ means for automatically slowing down a car before the power is shut off from the motor and the brake is applied. Neither elevator uses the floor selector circuits to bring the car to a stop level with the floor. They employ entirely different means and accomplish the slowing down and leveling of the car in an entirely different way. A leveling drum is employed in the defendants' elevators, and the floor selector has nothing to do with causing the car to stop level with a floor-landing.

PARKER PATENT HAS NO UTILITY.

The assertion that Parker is responsible for the modern automatic-stopping high-speed passenger elevator is an attempt to grossly mislead this Court. The record demonstrates that the patent in suit has contributed nothing of value in the industry. The mechanism described in the patent would be of no utility, if it were operative. It is not operative. No one has ever constructed or operated an elevator built in accordance with the specification or drawings of the patent, nor could he.

The special master found the patent specification defective, but was prone to condone the defects because Parker was not skilled in the elevator art.–

> "That Parker knew little of electric elevator practice is evident from the many defects to be found in his specifications." [*Master's Report,*– R. 558.]

In giving Parker credit for having made a valuable invention, notwithstanding the fact that he had admittedly not conceived or described a practical or workable mechanism, the master was laboring under a misapprehension of law which characterized his entire report, both on the issue of validity and of infringement. This error, as stated by Judge James, had fundamental relation to the findings recommended by the master and caused Judge James to hold in his opinion:–

> "I am totally unable to agree with the master;". [R. 638.]

The master failed to understand that in law a patent cannot be good merely for an idea that it would be desirable to automatically stop elevators in response to push-buttons. The patent could be sustained only for the means

devised by Parker for attaining that result, leaving it open to any other inventor to accomplish the same result by other means.

In the celebrated *Selden Patent Case,* under circumstances similar to those in the case here, the Circuit Court of Appeals for the Second Circuit says:—

> "A patent is granted for solving a problem, not for stating one."
>
> (*Columbia Motor Car Co. v. C. A. Duerr & Co.,* 184 Fed. 893 at 908.)

In *Corning, et al. v. Burden,* 15 How. 251, 14 L. ed. 683, 690, Mr. Justice Grier stated the familiar rule as follows:—

> "It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself."

The record conclusively demonstrates that for many reasons the mechanism described in the patent in suit is of no value. We shall here briefly refer to the more important reasons. These are more fully explained in the record.

High-Speed Elevators.

Until the speed of passenger elevators reached a point at which the operator in the car did not have time to properly distinguish an individual floor and manually stop the car, there was no value in automatically stopping the cars from push-buttons. The art, for obvious reasons, preferred to leave the stopping of the car to the operator. The higher car speeds required to meet the increased demands for elevator service in modern sky-

scrapers has but recently led to the need for automatic stopping. [Plaintiff's witness Charles,– R. 52.] It was common practice to automatically stop slow-speed cars from push-buttons in elevators of the apartment-house type. No operator was wanted in this type of elevator, because little traffic was handled. It is admitted that there is no value in the Parker patent if the mechanism therein described is not adapted for use in high-speed elevators.–

> "Unless the system can be used with high speed elevators to bring them to a stop effectively level with the floor, it is of little utility."
>
> [*Master's Report*,– R. 559.]

Judge James found that the mechanism disclosed in the patent in suit is not

> "adaptable to the operation of fast moving elevators such as are necessary to be used in buildings containing many stories like the modern skyscraper."
>
> [R. 640.]

This finding is fully supported by the record.

Elevators must stop substantially level with the floor-landing. The load in an elevator car varies from trip to trip. The inertia of the car will vary with the speed and with the load. In a slow-moving elevator, the inertia is not of sufficient importance but what the car can be brought to a stop approximately level with the floor landing by simply opening the motor circuit and setting the brake at a predetermined distance in advance of a landing irrespective of the load. In high-speed elevators, the car would stop at varying distances from the landing, depending on the load and speed, if the power to the motor

were cut off and the brake applied at any set distance from the floor-landing. This has been taken care of in manually-controlled elevators by the operator manipulating the car-switch. No high-speed automatic-stopping elevator could be operated successfully unless some means be employed for automatically slowing down the elevator before the power is shut off and before the brake is applied. To apply the brake to an elevator car moving at high speed would be disastrous [R. 448-9]. Long prior to any alleged invention of Parker, the elevator art knew fully how to employ a floor selector to automatically shut off the power and apply the brake in an elevator. The only problem that had not been solved at the time of the alleged Parker invention was how to automatically slow down the car so that when the power was shut off and the brake applied the car would come to a stop level with the landing. This problem was admittedly not solved by Parker.

According to the specification of the patent, Parker thought that leveling could be accomplished by timing the contacts on the floor selector so as to open the running circuits and apply the brake at some predetermined distance in advance of the floor landing. The patent specifically states that this is how Parker expected to bring the car to a level with a floor landing.–

> "Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level." (patent, p. 5, lines 22-30.)

This method could not be employed in a high-speed car. The secondary controlling circuits described by Parker would always be completed by the floor selector when the car was the same distance from the floor. The patent describes no way in which these secondary controlling circuits can be completed at different distances from the floor dependent on the load or speed of the car. If the secondary circuits are completed at the same predetermined distance from the floor irrespective of the speed or load, the car will obviously stop at different distances from the floor level, for the same reason that a train or automobile will stop in different distances depending on its weight and speed.

It is necessary in a high-speed elevator to automatically slow the elevator down before the car can be automatically stopped level with a landing. No means for doing this is described in the patent. No such means existed in the art at the time Parker made his invention. The contention in Plaintiff's Brief that the prior art had such slow-down mechanism is shown by the record to be utterly fallacious and is directly contrary to the stipulation of fact made by plaintiff at the trial of this cause. Judge James correctly found that at the time of the alleged Parker invention:–

> "No braking means were then in use which were adaptable to fast moving elevator cars and by means of which the car could be accurately leveled with a floor." [R. 640.]

Plaintiff was in the business of manufacturing car-switch elevators for many years prior to the alleged Parker invention. If the so-called Parker "Control" could be

used to "harness" any of such elevators, as represented by plaintiff, it would only have been necessary for plaintiff to have substituted Parker's new form of master control switch with the holding and neutralizing magnets, connecting the neutralizing magnet with the floor selector always employed in these car-switch elevators. Plaintiff does not contend that it has done this. It could not be done. It would be impossible to employ in a high-speed car the mechanism and mode of operation described in the Parker patent, even though automatic means for slowing down the car were available. Such slow-down mechanism must function before the running circuit is broken and the brake applied. A secondary controlling circuit from the floor selector must connect to such slow-down mechanism and not to the car-switch or the running circuit. The ultimate stopping of the car and the setting of the brake must be accomplished by some means in the system that will function after the car has moved through the slow-down range. In practice this is more than the distance that separates two floors of a building. The secondary slow-down circuit from the floor selector has been broken and no longer exists at the point at which the running circuits are interrupted and the brake set. The means embodied in plaintiff's Signal Control elevators for automatically slowing down and stopping the car are in no way similar to those described in the patent in suit. The motor circuits are not opened and the brake is not applied by a secondary controlling circuit from the floor selector. On the contrary, such Signal Control elevators employ a slow-down mechanism designed by plaintiff subsequent to the alleged Parker invention. At the trial of this

cause, plaintiff stipulated that such slow-down and self-leveling mechanism required an invention not disclosed in the patent in suit.–

> "It was admitted at the hearing before the master by plaintiff's counsel that further invention was required beyond that of Parker to make his system adaptable at all for fast moving elevators."
>
> [Judge James,– R. 640.]

The record shows that plaintiff was correct in stipulating to this fact. Plaintiff has obtained patents covering this slow-down and leveling mechanism and these patents are subsequent to the patent to Parker. One of these is Patent No. 1,632,225, granted to plaintiff on an application filed May 23, 1922, containing the following claim:

> "8. An elevator system comprising, means for automatically initiating a reduction of the elevator speed to a definite low speed at different fixed distances from the desired landing, and means for causing the definite low speed of the elevator to be directly in some proportion to the unbalanced weight being lifted." [Def'ts Exhibit "D"– R., Vol. 3, p. 85.]

Another is Patent No. 1,632,226, granted to plaintiff on an application filed May 23, 1922, disclosing means for varying the distance that the car is slowed down when it is coming to a stop at a landing dependent upon the speed of the car, and claiming:–

> "3. An elevator system comprising means for bringing the elevator from rest to full speed, and means rendered operative by the operator for automatically initiating a reduction of the elevator speed at different fixed distances from a desired landing."
>
> [Def'ts Exhibit "C"– R., Vol. 3, p. 65.]

When plaintiff designed its Signal Control elevators, it did not adopt the means or mode of operation described in the patent in suit, but proceeded in the following manner:

1.– It devised automatic slow-down and stopping devices for automatically decelerating the speed of the car in steps as the car progressively passed fixed distances from the floor level.

2.– It devised means for automatically varying the point at which the operation of slowing down and stopping the car was initiated in accordance with the speed of the elevator car.

3.– It devised means which compensated for the different loads in the car and modified the slow-down operation in accordance with the load or number of people in the elevator car.

To limit the evidence in the record concerning these developments, plaintiff stipulated, at the suggestion of the master, that this mechanism in plaintiff's Signal Control elevators required invention over the Parker patent.–

> "Mr. Lane stated that he would admit for the purposes of this case that the slow-down and braking mechanism in the Otis elevator are invention apart from the Parker patent." [R. 257.]

Plaintiff is unable to show any automatic slow-down mechanism in the prior art that could be employed with the mechanism described in the patent in suit in a high-speed elevator. The leveling devices used in manually-controlled passenger elevators could not be used. These leveling devices merely bring the car to a level with the landing, where the operator has manually slowed down

the car and brought it to a stop a few inches above or below the landing. They are not a substitute for automatic slow-down mechanism required to automatically bring a high-speed car to a stop substantially level with the floor. Such leveling mechanism can function only by the car attendant manually regulating the slow-down of the car in accordance with the load and speed. In other words, the operator must manually slow down the car to bring it within the so-called micro range where leveling mechanism of that type could function.–

> "On a self-leveling elevator, if it was set for a signal to be registered to the operator a floor in advance, it would give the operator 90 per cent of the difference of travel between the time he got that signal for him to begin to watch his floor and catch his car within the micro range." [R. 125.]

The brief for plaintiff goes outside the record here and asserts that the patent involved in *Otis v. Kaestner & Hecht,* 234 Fed. 926, discloses a mechanism for automatically slowing down elevators prior to the alleged invention of Parker. The patent involved in that suit is not in evidence here. It is apparent from the decision of the court in that case that the patent there had nothing whatever to do with the problem of automatically slowing down a high-speed elevator car at different landings. The patent there related solely to a safety appliance used on elevator cars to avoid the cars hitting the bottom or the top of the elevator shaft. It is not a device for automatically slowing down a high-speed car to bring it to a stop at a floor landing, but instead a device for prematurely converting the elevator car from a high-

speed car to a low-speed car solely at the terminals of the elevator shaft. This conversion to a low-speed car takes place at a predetermined distance from the terminal of the elevator shaft and the mechanism could not be employed for stopping at intermediate landings. Moreover, the car is not automatically stopped after the conversion to a slow-speed car, but is stopped manually by the operator.—

> "As the car nears the end of its run up or down the winding drum is made to close a switch. This at once cuts out the rheostat, permits full current to flow through the shunt field, giving increased armature resistance, and slowing the speed, but still leaving the car driver in full control at the slower rate." (*Otis v. Kaestner & Hecht*, 234 Fed. 926, at 931.)

The mechanism involved in that case would obviously not serve to automatically slow down a high-speed car preparatory to stopping automatically level with various floor landings. It embodied no means for varying the point at which slow-down commenced or the rate at which slow-down took place to compensate for varying loads or speeds. The terminal slow-down mechanism involved in *Otis v. Kaestner & Hecht* has no relation to the automatic slow-down mechanism embodied in plaintiff's Signal Control elevators. The attempt in plaintiff's brief to go outside the record in this case, contrary to the stipulation made herein, is totally unjustified. The finding of the court that the mechanism described in the patent in suit cannot be used in high-speed elevators is supported by the uncontradicted evidence in the record in this case.

Bank of Elevators.

The mechanism disclosed in the patent in suit is further lacking in practical utility because it could not be used in a bank of elevators. A plurality of high-speed passenger elevators are invariably found in the same building. These elevators are scheduled in order to handle the traffic, and the set of elevators is called a "bank". With the means disclosed in the Parker patent, the pushing of a button at a hall landing could only cause the stopping of a particular car in the bank. This is because the circuits from the hall push-buttons as described in the Parker patent pass through the car-button circuits to the floor selector. The passenger at the hall landing would have to wait until the particular car arrived and the other cars in the bank would pass by without stopping. Such a system is not wanted in the elevator industry and is totally lacking in any utility. When a passenger presses a button at a hall landing, he wants the first car approaching the landing to stop. Plaintiff's witnesses admit that plaintiff has never installed a single Signal Control elevator. [R. 72, 200.] There is no use for high-speed automatic-stopping elevators except to serve a volume of traffic that requires a bank of elevators. Plaintiff's elevator expert Crabbe admits that to be practical the mechanism must be able to stop the first car in a bank of elevators to come to a landing, and not a particular car.–

> "It is necessary to the practical success of a bank of signal-control elevators that there be some means to stop the first car that comes to a landing when a button has been pushed, rather than to have a plurality of buttons, each button stopping only one car." [R. 199.]

He further admits that the first car approaching a floor could not be stopped by the mechanism illustrated in the Parker patent, or by any mechanism in which the circuits from the hall push-buttons pass through the car push-button contacts.–

> "The master asked whether a bank of elevators with more than one elevator, whether the first car approaching the floor could be stopped by pushing a button that closes the circuit that runs through the contact in the car buttons. The witness answered: No, I do not think it could." [R. 217.]

In plaintiff's Signal Control system, the first car approaching a landing will automatically stop in response to a push-button. This is because the plaintiff's Signal Control system does not embody the mechanism and mode of operation described in the patent in suit. Plaintiff has stipulated that the means embodied in its Signal Control system by which the first car in a bank may be automatically stopped from a push-button is the result of an invention not described in the Parker patent.–

> "As to whether there are other inventions involved in the complete installation, Mr. Lane said: I certainly concede that there is an invention beyond the Parker patent when you adapt it for use with a plurality of elevators." [R. 199.]

In his opinion, Judge James states:

> "Admittedly, there is nothing in Parker's disclosure which can make his installation work where more than one elevator is being operated." [R. 643.]

It is conclusively established that the mechanism described in the patent in suit is totally lacking in any

practical utility because it could not be used in high-speed elevators and could not be used in a bank of elevators. It is a well-settled principle of patent law that a patent will not be sustained for a machine which will accomplish no practical purpose when put to industrial use. Such a machine is not useful within the sense of the patent law. This rule is illustrated by the decision of the Circuit Court of Appeals for the Eighth Circuit in *Besser v. Merrilat Culvert Core Co.*, 243 Fed. 611, in which the Court said:

> "The term 'useful', as contained in the patent law, when applied to a machine, means that the machine will accomplish the purpose practically when applied in industry. It is to be given a practical and not a speculative meaning. It means that the machine will work and accomplish the purposes set forth in the specifications. Even if the machine can be made to accomplish the purposes specified, it is not useful, within the meaning of the patent law, if from its inherent nature it will accomplish the purpose only to such a restricted extent as to make its use in industry prohibitive. This has been the interpretation put upon the term in the patent law from the earliest decisions to the present time. Bliss v. Brooklyn, Fed. Case No. 1,546; Chandler v. Ladd, Fed. Cas. No. 2,593; Troy Laundry Mach. Co., Limited, v. Columbia Manufacturing Co. (D. C.), 217 Fed. 787. These views are fatal to plaintiff's machine. It would work as a core if it was started at the smaller size and expanded through the range of its expansibility. After that had been done, however, it would not work when contracted for smaller sizes. The expense of the machine made it worthless in the industry if its use was thus re-

stricted. To be sure, it is well established in patent law that a machine need not be perfect in order to be patentable. If it will accomplish the purposes set forth in the specification practically in industry the patent is valid, although the machine may be greatly improved by the addition of some new element. If, however, it will not work practically in industry when constructed according to the claims and specifications, it is not useful, and cannot be sustained upon a showing that it can be made to work by a small improvement. That is the objection to the suggestion of plaintiff here that if a wire be applied to his machine it can be made to work some. See Bliss v. Brooklyn, Fed. Cas. No. 1546. Plaintiff had a new idea. It was valuable in industry. Unfortunately for him, however, an idea is not patentable. Only a machine is patentable, and when plaintiff undertook to embody his idea in a machine he did not give it an expression which would work in industry. His machine, therefore, was not patentable."

The master mistakenly concluded that it was immaterial that subsequent inventions were required to enable a bank of high-speed elevators to be automatically stopped from push buttons. [R. 583.] The authorities uniformly hold that the patent in suit cannot be sustained or aided by the subsequent inventions of others.—

"To remedy the defects of his system and apparatus something more was required than mere mechanical engineering skill; nor did the later inventions inure to his benefit. Computing Scale Co. v. Standard Computing Scale Co., 195 Fed. 508, 115 C. C. A. 418. The Kennedy device was not entirely useless, in the sense that it would not work at all;

but its principle of operation was clearly divorced from that of defendant's standard and double relay systems and apparatuses.

"As in my opinion the patentee had in mind a method for measuring the time during which current passed to the battery, as distinguished from the amount of current, and an apparatus requiring a predetermined voltage, I have reached the conclusion that the claims in issue must be limited to such a method and device, regardless of their broad phraseology."

(*Consolidated Ry. E. L. & E. Co. v. U. S. L. & H. Corp.*, 246 Fed. 127, at 132-3.)

"While the Morris patent describes a machine of the same type, it did not solve the problem of automatically inserting by machinery a diagonal strip in open cane work. No practical machine embodying the invention has ever been constructed. The successful solution of the problem was subsequently attained by the inventor and his son in a patented machine constructed on a different principle. If the Morris machine had proved to be practical and useful, it is doubtful whether the defendants' machine could be held to be an infringement upon any recognized rule of equivalents, in view of the radical difference between the two structures. But, the Morris machine having proved a practical failure, it is manifest that the defendants' machine cannot be held to infringe. The decree of the circuit court is affirmed, with costs."

(*Ford, et al. v. Bancroft, et al.*, 98 Fed. 309, at 312-13 – C. C. A. 1st Cir.)

In the *Selden Patent Case* the Court of Appeals for the Second Circuit specifically held that a patent may not be sustained which requires the subsequent invention of another to adapt the invention to practical use, saying of such a patent:—

> "Its description must explain the invention itself, the manner of making it, and the mode of putting it in practice. In the absence of knowledge upon these points, the invention is not available to the public without further experiments and further exercise of inventive skill. A claim for a combination which embraces an element only in case it is made capable of being employed in the combination and without disclosing means of adapting it discloses nothing definite. The questions remain: What engine is capable of being combined in a road vehicle? What changes are necessary to adapt it to the purpose? How are these changes to be made? If we were to construe the claim as the complainants urge, we should be obliged to go further and hold it uncertain, indefinite and consequently invalid."
>
> (*Columbia Motor Car Co. v. C. A. Duerr & Co.*, 184 Fed. 893, at 908.)

Substitute automatic slow-down mechanism and means to adapt the system to a bank of elevators for the engine referred to in the Selden case, and the language of that case fits precisely plaintiff's position in this case.

NON-USE OF THE PARKER PATENT.

The testimony of Parker establishes without contradiction that the patent in suit is purely a paper speculation. The inventor says that in July, 1920, in a hotel in Detroit he conceived that it would be desirable to have the elevator cars stop automatically in response to push-buttons. He believed this would be a better way to handle an elevator than to have the operator in the car signaled to stop the car from the push-buttons. It is elementary that this idea could not itself be patented and that Parker could obtain a patent only for such machine as he might invent which would accomplish this result. Patents are not granted for results, functions, or modes of operation. No one can have a patent for the function or abstract effect of a machine, but only for the machine which produces it.

Morley Sewing Machine Co. v. Lancaster, 129 U. S. 263, 32 L. Ed. 715;

The Corn-Planter Patent, 23 Wall. 181, 23 L. Ed. 161;

Corning v. Burden, 15 How. 251, 14 L. Ed. 683;

Risdon, etc. Locomotive Works v. Medart, 158 U. S. 68, 39 L. Ed. 899;

Electric R. Signal Co. v. Hall R. Signal Co., 114 U. S. 87, 29 L. Ed. 96;

O'Reilly v. Morse, 15 How. 62, 120. 14 L. Ed. 601;

LeRoy v. Tatham, 14 How. 156, 174, 14 L. Ed. 367;

Burr v. Duryee, 1 Wall. 531, 581, 17 L. Ed. 650;

Fuller v. Yentzer, 94 U. S. 288, 24 L. Ed. 103;

Wicke v. Ostrum, 103 U. S. 461, 26 L. Ed. 409;

Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 556, 42 L. Ed. 1136;

Rubber-Tip Pencil Co. v. Howard, 20 Wall. 498, 22 L. Ed. 410;

Miller v. Eagle Mfg. Co., 151 U. S. 186, 201, 38 L. Ed. 121.

Parker went to a patent attorney and they laid out the drawings and description of the patent in suit [R. 75]. No elevator was constructed in accordance with these drawings and specifications and no attempt was made to test their operativeness or practicability.–

> "At the time the application was filed in the Patent Office April 25, 1921, I had not built a structure and had made no test of the arrangement that was shown in the diagram." [R. 95.]

No elevator built in accordance with the drawings and specifications of the patent in suit has ever been built or operated. Parker admitted at the trial of this case that he could not state whether an elevator built in accordance with his patent drawings and specifications would be operative [R. 95]. Plaintiff's elevator expert Crabbe testifies:–

> "I never saw an elevator erected in accordance with the schematic drawing of Parker." [R. 229.]

It is well settled that a paper patent will not be given a broad construction or a wide range of equivalents. The inference from non-use is the converse of the inference drawn from widespread commercial success. A paper patent is not infringed except by a machine that is constructed substantially precisely in accord with the drawings and specifications of the patent. That this is the law in this Circuit is established by a number of decisions of this Court. The case of *Henry v. City of Los Angeles,*

255 Fed. 769, at 780, is directly in point. The patent before this Court in that case was for an electro-mechanical water-wheel governor. The patent described certain circuits and control mechanism for operating a water-wheel. The claims in terms covered any means that would perform certain functions. In this respect they were identical with the reissue claims in issue here. No one had ever constructed a water-wheel governor in accordance with the specifications and drawings described in the patent there in suit. The defendant employed a water-wheel governor which would perform the same functions, but by different means. The plaintiff contended that the patent should be broadly construed because the patentee was the first who had ever invented any governor that would perform those functions. This Court held that since no one had ever constructed and placed in use a governor built in accordance with the drawings and specifications of the patent, the patent must be limited in construction to the particular means there shown and described, and was not infringed by the defendant. We have quoted from this decision earlier in this brief.

In the case of *Cocks v. Rip Van Winkle Wall Bed Co.*, 28 Fed. (2d) 921, this Court again has stated:—

> "Another reason why the appellant's combination should not receive the construction due to a pioneer invention, but, on the other hand, should be strictly construed, is the fact that although the invention had been patented nearly ten years before the present suit was begun, it had not been utilized or placed upon the market but was still a paper patent. While the validity of a patent is not affected by its nonuser, Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U. S. 405, 28 S. Ct. 748, 52 L. Ed. 1122, the

nonuser has a bearing on its construction, and the courts are not disposed to give the same any broader scope than it is clearly required to be given. Westinghouse Elec. & Mfg. Co. v. Toledo, P. C. & L. Ry. Co. (C. C. A.), 172 F. 371; Wesel Mfg. Co. v. Printing Mach. Co. (D. C.), 218 F. 178; Kestner Evaporator Co. v. American Evaporator Co. (C. C.), 182 F. 844."

The Circuit Courts of Appeal in other Circuits have uniformly adopted and applied this same rule.

Lovell v. Seybold Mach. Co., 169 Fed. 288 (C. C. A. 2nd Cir.);

National Malleable Castings Co. v. Buckeye Malleable Iron & Coupler Co. et al., 171 Fed. 847 (C. C. A. 6th Cir.);

Ford v. Bancroft, 98 Fed. 309 (C. C. A. 1st Cir.).

It is not the intention of the patent law to permit a patent to be used for speculation. This suit is purely speculative. The alleged Parker invention is a mere hypothesis. The application for the patent was filed by Parker without any knowledge that the means described by him could be used successfully. No one now claims that it could. No business was built up under this patent. Nothing that Parker did contributed in any way to the development of plaintiff's Signal Control elevators. Plaintiff subsequently observed the defendants' elevators and purchased the patent for a nominal sum for the purpose of this suit. The defendants' elevators are not charged with employing any of the means described in the patent drawings or specifications. Plaintiff's claim that the patent has been infringed depends entirely on ignoring

the means disclosed in the patent and inducing the Court to construe the patent as giving a monopoly on the idea of automatically stopping elevators from push-buttons. Such attempts as this have been made before, but without success.–

> "In this case we have an attempt to convert an improved machine into an abstraction, a principle or mode of operation, or a still more vague and indefinite entity often resorted to in argument, an 'idea'." (*Burr v. Duryee,* 1 Wall. 531, 17 L. ed. 650, at 660.)

The design of the patent law is to reward those who have created some new and useful machine. The law does not intend that a monopoly can be secured by those whose machines are valueless. Such a policy would retard rather than promote the progress of the useful arts. It would create a class of speculators who by patents on desirable results could exclude all others from successfully accomplishing those results, even though they themselves had never done so. The Supreme Court has condemned the use of the patent system for such speculation, saying:–

> "It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts." (*Atlantic Works v. Brady,* 107 U. S. 192, 27 L. Ed. 438, at 441.)

PARKER PATENT INOPERATIVE.

The mechanism as described and illustrated in the Parker patent in suit is not operative. We have already shown that the control described by Parker has no utility because it could not be adapted to a high-speed elevator and could not be used in a bank of elevators. We shall now show that it is inoperative for any purpose. The principal points of inoperativeness are illustrated in Figures 5, 6, and 7 appended to this brief. These are explained in detail in the record and we make only a brief summary here.

The Tail Piece Circuits (Figure 5 of this Brief).–

The patent in suit describes that the car-switch handle is provided with a tail piece 42 which is intended to contact with contacts 39 and 40 when the car-switch is moved to the "up" position and to contact with contacts 39′ and 40′ when the car-switch is moved to the "down" position. The patent explains that this arrangement is necessary to guard against the operator short-circuiting the system by moving the car-switch into engagement with the "up" contacts when the car is traveling down, and vice versa (patent, p. 5, lines 83-118). A study of the circuits described in the Parker patent shows that because of the tail piece 42 the car-switch could not be returned to the neutral position without stopping the car. Defendants' exhibit "V" is an enlargement of the Parker patent, showing in colored lines the circuit which will be set up in the operation of returning the car-switch lever to neutral position. This circuit is reproduced as Figure 5 of this brief.

Referring to the Figure, the car-switch lever is shown in the position it occupies when being returned to the neutral position after it has been moved to the "up" position, leaving its contact arm 9 closing the "up" contacts of the car-switch. A circuit is established through the tail piece as follows: From the positive main 12 to the line 43, through contacts 40, 39, now bridged by the tail piece 42 of the car-switch, through the line 36′, ring g′, thence through the selector arm 34, which at all times connects with the rings g and g′, through the line 36 to the neutralizing magnet 37, through the line 38 to the negative main. When this circuit is established, the neutralizing magnet 37 is energized, releasing the contact arm 9 of the car-switch so that the spring will cause it to fly back. This would break the primary running circuit illustrated in Figure 1 of this brief, deenergize the pole changing magnet 16, and break the motor circuit shown in Figure 2 of this brief. This would bring the elevator to a stop before the secondary controlling circuit had been completed through the floor selector, and render the system totally inoperative. Parker admitted in his testimony that this is true if the ring g and the ring g′ on the floor selector are bridged by the brush 34 as shown in the patent [R. 102].

Up Car Stopped By Down Buttons (Figure 6 of this Brief).–

The patent describes one set of push-buttons for the floor landings which are intended to stop the car when traveling up, and another set of push-buttons for the floor landings intended to stop the car when traveling down. An "up" button should not stop a "down" car, and *vice versa*,

but with the mechanism as described in the patent in suit, it will do so. Defendants' exhibit "W" is an enlargement of a drawing of the Parker patent illustrating in color the circuit set up by the "down" buttons, which would stop an "up" car. This circuit is reproduced in Figure 6 of this brief.

Referring to the Figure, the circuit may be traced as follows: From the positive main through the line n^2, through the reset magnet $m^{2'}$, post $k^{2'}$ and contact $j^{2'}$ and $l^{2'}$ of the hall-button, through the line $o^{2'}$, contacts $p^{2'}$ and $l^{2'}$ and post $c^{2'}$ of the car-button, line $h^{2'}$ to contact $f^{2'}$ of the floor selector, through the arm 34 to ring g of the floor selector, thence by line 36 to the neutralizing magnet 37 and line 38 to the negative main. This circuit would cause an "up" car to stop in response to a "down" button, and *vice versa* [R. 453].

Resetting Of Buttons (Figure 7 of this Brief).—

Defendants' exhibit "Y" illustrates that the mechanism described in the Parker patent would cause a hall-button to be reset if a car went by that floor in either direction, even though the car did not stop at the floor. This would mean that when the car did arrive at the floor from the proper direction, the button would have been released and the car would not stop. This circuit is reproduced as Figure 7 of this brief.

In the figure the circuit may be traced as follows: From the positive main through the line n^2, through the reset coil $m^{2'}$, post $k^{2'}$, and contacts $j^{2'}$ and $l^{2'}$ of the hall-button, through line $o^{2'}$, contacts $p^{2'}$, $l^{2'}$, and post $c^{2'}$ of the car-button, through line $h^{2'}$ to contact $f^{2'}$, arm 34 and ring g'.

through line 36′, through the coil of magnet 37′ and line 38′ to the negative main. This circuit is completed whenever the car passes the floor at which a push-button is set. An "up" car will reset a "down" push-button, and *vice versa*. The circuit was intended by Parker to reset an up button after an up car had stopped, or a down button after a down car had stopped. Parker overlooked the fact that this circuit would function irrespective of the direction of travel of the car. Exhibit "Y" shows the circuits that are set up in the Parker system, whereby a hall push-button would be reset when the car travels past the floor in a direction opposite to that indicated by the push-button [R. 453].

Race of Circuits.–

The term "race of circuits" in the elevator art refers to a circuit which, when it is complete, is intended to energize two different magnets, each of which has a contact which will open the circuit. When this condition exists in an elevator installation, if either contact operates a fraction of a second before the other operates, the circuit is broken and the other contact cannot operate. It is a race to see which of the two contacts will operate. Only one can operate and the other will not. The secondary control circuits described in the patent in suit are admitted to be open to this objection. This can be seen by reference to Figures 3 and 4 of this brief. For example, in Figure 3 the secondary control circuit includes the car-switch contacts 10 and 11 and the push-button contacts d^2 and b^2. If either of these switches opens before the other, the circuit is dead. Yet the circuit must be maintained until

both the reset magnet e^2 is energized to open its contacts and the neutralizing magnet 37 has been energized to release the car-switch contact arm 9. In practical operation, one of these two devices would always operate before the other, and then the other could not operate. For example, in Figure 4, if the reset coil m^2 is energized to open the hall contacts l^2 and j^2 before the neutralizing coil 37 has released the car-switch arm 9, the intended operation could not take place.

Plaintiff's elevator expert Crabbe admits that the mechanism described in the patent in suit is open to these objections and that it is difficult for him to say what would happen from any operation of such a circuit.–

> "I find in the Parker drawing that the reset coils of the hall buttons are in series with the de-energizing coils on the car switch, that is, they are in series when the selector contacts make for a given floor. There might possibly be some time relation necessary under these circumstances for them to operate.
>
> "If the deenergizing coil 37 functioned to neutralize the coil 32 so that the arm 9 passed off the contacts 10 and 11 before the reset coil of the hall button functioned, it may not reset the button.
>
> "If the reset coil functioned before the arm 9 disconnected, the contacts 10 and 11, it is hard to say what would happen." [R. 225.]

Curing Inoperativeness.

The law is well settled that a patent for an inoperative machine is void unless the inoperativeness could be cured by the exercise of mere mechanical skill.–

> "A patented machine that will not do what it is intended to do could not sustain an action against one

> who was shown to use a successful and operative machine." (*Coupe v. Royer,* 155 U. S. 563, 39 L. ed. 263, at 267.)

In the circuits illustrated in Figures 5 and 6 of this brief, the selector arm 34 contacts with the rings g and g′. This is exactly in accordance with the drawing of the patent. The master in his report conceded:

> "If such is the case the intended operation of the structure is thwarted." [R. 559.]

Plaintiff contended at the trial that one skilled in the art would not use such a floor selector, but would use a floor selector in which there was more than one arm 34, or some other means of separating the selector circuits. The master stated in his report that "the art was sufficiently advanced in skill and knowledge to supply the deficiency." [R. 559.] Judge James did not think the question need be decided because he assumed that the car-switch might be used without the tail piece. [R. 637.] This would not be practical because of the danger of the operator short-circuiting the car. The patent concedes the necessity for the tail piece. Eliminating the tail piece would not avoid the inoperativeness illustrated in Figure 6 of this brief. The provision of another arm 34′ or some other means of separating the selector circuits would not avoid the inoperativeness illustrated in Figure 7 of this brief.

Plaintiff's witnesses concede that the mechanism described in the Parker patent is inoperative as shown, but testify that in their opinion this inoperativeness could be cured by the exercise of mechanical skill. How they thought this could be done was developed on cross-examination. We shall not attempt to repeat this testimony here. When they got through, the mechanism described

in the patent no longer existed. If skilled elevator engineers could accomplish what plaintiff's witnesses say they could to cure the inoperativeness of the Parker patent, then no invention by Parker was required to enable them to construct an elevator that would do everything claimed for the patent in suit. Plaintiff's witnesses testified:–

1st – that the floor selector described in the patent in suit will not work as shown, but that operative floor selectors were known in the prior art;

2nd – that the master control switch of the Parker patent is a step backward in the art, but that an operative car-switch existed in the prior art;

3rd – that the Parker patent describes no braking mechanism, but that the necessary braking mechanism was known to the elevator engineer in the prior art; and

4th – that the secondary control circuits described in the patent could not be used, but that satisfactory secondary control circuits were known in the prior art that could be used.

Plaintiff cannot assert one standard for the skill of the elevator engineer for the purpose of correcting the inoperativeness of the patent in suit, and a different standard in determining what, if anything, Parker invented that could not have been provided from the prior art by the skilled elevator engineer. Plaintiff proposes to substitute something from the prior art for everything that Parker described. If this could not be done, the patent in suit is inoperative. If it could be done, the patent is within the skill of the calling and void for lack of invention.

OTIS SIGNAL CONTROL ELEVATORS.

Plaintiff has introduced evidence showing commercial installations of its so-called Signal Control Elevators, and asserts that the patent in suit is to be liberally construed in view of the success of these installations. It is our contention that the opposite is true. Plaintiff's Signal Control Elevators were not invented by Parker. They are not constructed in accordance with the drawings and specifications of the patent in suit. Plaintiff concedes that they embody a large number of inventions not made by Parker. Plaintiff admits that these inventions are necessary to the commercial success of its Signal Control Elevators. The fact that the plaintiff could not use the elevator control described in the Parker patent, but was required to invent a different control, establishes the impractical, paper status of the Parker patent.

> "Parker never constructed or had constructed an installation demonstrating his system; neither does it appear that the plaintiff here, who purchased his patent, has ever used it in the form taught and specified in the patent. The plaintiff, subsequent to the date of the Parker patent, secured patents issued to it covering control systems for fast-moving elevators. I do not understand that it is claimed that plaintiff made use of the Parker disclosure as specified at all, but that it adopted 'equivalents' of the essential parts."
>
> [Judge James,– R. 641.]

There is no support in the record for plaintiff's contention that the means comprising its Signal Control elevators are the "equivalents" of the means described in the patent in suit. There is no similarity whatsoever except in result. Identity of function or result does not establish equivalency. This is elementary.–

"It is true that the patentee, after describing his machine, has set forth his claim in rather ambiguous and equivocal terms, which might be construed to mean either a process or machine. In such case the construction should be that which is most favorable to the patentee, *'ut res magis valeat quam pereat.'* His patent having a title which claims a machine, and his specification describing a machine, to construe his claim as for the function, effect, or result of his machine, would certainly endanger, if not destroy, its validity. His claim cannot change or nullify his previous specification with safety to his patent. He cannot describe a machine which will perform a certain function, and then claim the function itself, and all other machines that may be invented to perform the same function."

(*Corning et al. v. Burden,* 15 How. 251, 269, 14 L. Ed. 683, at 691.)

In *Union Special Machine Co. v. Metropolitan Sewing Machine Co., et al.,* 201 Fed. 690, Judge Mayer held that the means employed in the defendant's machine were not the mechanical equivalents of the means described in the patent in suit where the individual elements which made up the groups of mchanical devices were not identical, nor part for part the mechanical equivalents of each other, even though the respective groups in the two machines conjointly operated to produce the same result. Plaintiff has offered no evidence of any similarity between its Signal Control elevators and the mechanism described in the patent in suit except that the functions are the same. When asked to make a comparison, plaintiff's elevator expert testified:–

"The witness was asked how the structure shown in the Parker patent compares with the construction

and operation of the Otis Elevator Company's signal control elevators. Objected to as not the best evidence. Objection overruled. Exception.

"The witness answered: They are the same."

[R. 147.]

On cross-examination he was asked what he meant by his testimony that these mechanisms were the same, and testified that he meant they performed the same function.–

"Q. What do you mean when you say a thing is just the same? A. I mean it performs the same function.

"Q. You don't mean it does it in the same way or that it is constructed the same? A. No."

[R. 212.]

Throughout the trial defendants objected to the testimony of plaintiff's experts that plaintiff's Signal Control elevators embody the Parker invention because they perform the functions described in the patent in suit. Defendants demanded that plaintiff prove the construction and mode of operation of its Signal Control elevators and establish that the mechanism therein is similar to and the equivalent of that described in the patent in suit. Plaintiff did not comply with this demand. A single drawing was finally produced by plaintiff [R. 267]. No witness identified or explained this drawing. The drawing is not intelligible in the absence of testimony. The only comparison in the record between the mechanism embodied in plaintiff's Signal Control elevators and the mechanism described in the patent in suit was obtained by defendants on cross-examination of plaintiff's witnesses, and establishes fully that there is no similarity whatever except in result. This cross-examination established the following differences in the mechanism:

(1) The car-switch employed in plaintiff's Signal Control elevators is not moved in one direction to start the car upward and in the opposite direction to start the car downward. [R. 211.]

(2) The car-switch employed in plaintiff's Signal Control elevators is not held in circuit closing position by any holding circuit or magnet, and is not released by the stopping circuits. [R. 213.]

(3) Plaintiff's Signal Control elevators do not employ the type of floor selector described in the patent in suit. [R. 230-1.]

(4) The floor selectors employed in plaintiff's Signal Control elevators do not have the hall buttons and car buttons connected in the same circuits. [R. 229-230.]

(5) The closing of the contacts on the floor selectors employed in plaintiff's Signal Control elevators does not open the running circuits and shut off the power to the motor as described in the patent in suit. [R. 229-230.]

(6) The pole-changing switch employed in plaintiff's Signal Control elevators is not opened upon the closing of the floor selector contacts as described in the patent in suit. The pole-changing switch remains open until the car arrives at a level with the floor landing. [R. 211.]

(7) The circuits and wiring of the plaintiff's Signal Control elevators are entirely different from those shown in the patent in suit. [R. 229.]

(8) The hall button circuits employed in plaintiff's Signal Control elevators do not pass through the car buttons. [R. 217.]

(9) Plaintiff's Signal Control elevators do not employ separate "up" buttons and separate "down" buttons in the car, as disclosed in the Parker patent in suit, but instead only employ one button for each direction. [R. 217.]

(10) Plaintiff's Signal Control elevators do not employ a control for the motor in which the pole-changing switch directly connects the motor to a source of power, but instead employs a complicated system of motor control known as "multi-voltage". [R. 208.]

(11) Plaintiff's Signal Control elevators are arranged so that the floor buttons will stop the first of a bank of cars which pass a floor, no such construction being disclosed in the patent in suit. [R. 195.]

Had plaintiff described the mechanism employed in its Signal Control elevators, many other differences would appear.

Under these circumstances the patent in suit is not aided by the success of plaintiff's Signal Control elevators. The rule that widespread commercial success entitles a patent to a liberal interpretation is limited to cases in which the particular machine described and illustrated in the patent is the one that has had the commercial success. The patent is not aided by the success of a different machine.—

> "We need only refer to the alleged pronounced commercial success of the Haggerty guard. That success, to be proof of anything, must be confined to the exact thing disclosed by the patent. Johnson, *et al.* v. Lambert, 234 Fed. 886, 148 C. C. A. 484; Duer v. Corbin Cabinet Lock Co., 149 U. S. 216,

13 S. Ct. 850, 37 L. Ed. 707. That padded football trousers are a pronounced success does not of necessity signify that the Haggerty guard is such."

(*Haggerty, et al. v. Rawlings Mfg. Co.*, 14 Fed. (2d) 928, at 930 (C. C. A. 8th Cir.)

"Extensive use of the Clarke machine is urged in support of the patent. Even if his commercial machine fully embodied these claims, we cannot find from the evidence that to any material degree these two claims, out of the five of this patent, were alone responsible for the contended commercial success, especially as it appears on the plate of the Clarke machine in evidence that it embodies in its construction seven other patents referred to by their dates, as well as 'others pending'. Indeed, it is quite possible that the success is in large measure attributable to Clarke's departure from the somewhat complicated mechanism shown in his patent for adjusting the drum without movement of the frame whereon it is mounted." (*Barker v. Atwell*, 13 Fed. (2d) 363, at 364 – C. C. A. 7th Cir.)

"Plaintiff manufactured and sold only 125 trailer trucks conforming to the specific construction illustrated and described in its patent. The dates between which they were made and sold are not clearly shown, but it seems to have covered a period of several years. Plaintiff discovered, shortly after beginning to make them, that the specific construction of the patent was not as efficient or satisfactory as it could be made. It departed therefrom immediately, and

has since made and sold trucks having either a single or double drag link, with ball and socket connections as the compensating means. Plaintiff's large sales and the commercial success of its trailer, on which is based the usual arguments, are of these later types. Furthermore, these sales are due to the growth of industry and trade conditions, and in no wise to the specific contribution, if any, to the trailer truck art of Eccard & Smith's alleged invention. In other words, the validity of plaintiff's patent and the scope of its claims, are in no wise aided by such commercial success as it is shown plaintiff's truck has had."

(*Troy Wagon Works Co. v. Ohio Trailer Co.*, 264 Fed. 347, at 351.)

"The same consideration affects the force to be given to commercial use. As so often happens, plaintiff says there is a strong inference of that utility which is a 'new result', because the device has gone into extensive use, and defendant says we should infer that there was no novel utility, because the device has not been commercially accepted. The fact is, a few axles in the form shown by this patent, and embodying, also, other Lindsay patents, were sold by the Lindsay Company; and then that company went out of business. Later, the Timken Company took a license under this and two other Lindsay patents, and under them, and in connection with designs and improvements of its own, made an axle which was widely sold and was bought and used by defendant for one year; but there is slight room to infer that

> its commercial acceptance was due to the merits of this particular patent rather than of the other patents and improvements which it embodied, and still less to attribute its commercial success to the comparatively minor structural detail, viz., the peculiar sectional casing, without which it would not have responded at all to the two claims in suit. The commercial success of this Timken axle throws no light on the validity of this claim."
>
> (*Winton Motor Carriage Co. v. Lindsay Auto Parts Co.*, 239 Fed. 521, at 526-7 – C. C. A. 6th Cir.)

The success of plaintiff's Signal Control elevators is more apparent than real. Large figures do not mean much in this industry. Plaintiff admits that it has used the most extraordinary efforts to stimulate the sale of its Signal Control elevators [R. 58-59]. Plaintiff has enjoyed the bulk of the elevator business in this country for many years prior to the patent in suit. It would doubtless have made the same installations with any type of elevator that it offered to the trade. The sales of the Signal Control elevators by plaintiff have amounted to only approximately one-tenth of plaintiff's total sales of elevators in this country for the period in question [R. 68]. Under these circumstances the sales have no significance.–

> "That the extent to which a patented device has gone into use is an unsafe criterion even of its actual utility, is evident from the fact that the general introduction of manufactured articles is as often effected by extensive and judicious advertising, activ-

ity in putting the goods upon the market, and large commissions to dealers, as by the intrinsic merit of the articles themselves."

(*McClain v. Ortmayer,* 141 U. S. 419, 35 L. ed. 800 at 803.)

"We are still of opinion that 'commercial success is an unsafe guide to invention, unless prior efforts to fill the space be shown, * * * and, when they are shown, it is not infrequently found that the faculty of invention was not necessary to fill whatever vacancy existed.' Boston, etc. Co. v. Automatic Co. (C. C. A.), 276 F. 910."

(*David Belais, Inc. v. Goldsmith Bros. Smelting & Ref'g Co.,* 10 Fed. (2d) 673.)

"The commercial opportunity is shown to have been afforded by the enormous growth of the electrical appliances for comfort above enumerated, and plaintiff is and has been a most pushful advertiser, setting forth in publications of record plausible reasons for patronage having no reference to whatever invention is defined by the claims in suit. We decline to consider commercial success in respect of either the fact of invention or interpretation of claims."

(*Harvey Hubbell, Inc. v. General Electric Co.,* 267 Fed. 564, at 569.)

THE PRIOR ART.

The prior art in evidence is of two classes: (1) the testimony and admission of the experts concerning the types of elevators which were in common commercial use prior to the Parker alleged invention, and (2) the patented art. At the date of the alleged Parker invention, many different types of elevators had been designed employing various mechanisms for automatically stopping an elevator. There was no room for any basic invention in stopping elevators by push-buttons in any particular manner. Judge James found that at the time of the Parker invention the art, if not a crowded one, was at least well occupied.–

> "* * * my conclusion, to the contrary, is that when Parker conceived his invention, the art of elevator control by electrical means, if not already crowded, was certainly well occupied." [R. 638.]

Elevators in common use at the time of the alleged Parker invention were: (1) the so-called attendant-controlled elevators, which we find in the majority of large buildings where traffic conditions are severe, and (2) the full-automatic elevator, which is found in many apartment houses and in some office buildings.

Attendant-Controlled Elevators.

The attendant-controlled elevators may be briefly described as comprising an elevator or cage operating up and down in a well or hatchway past the floors it serves. An attendant or elevator operator rides on the car to directly control its movement and to insure the safe transportation of the passengers. These elevators are provided with push-buttons, operating through floor selectors, which enable the passengers to signal an elevator car to stop at the desired landings.

A general understanding of the mechanism embodied in such elevators is necessary to the determination of several of the issues in this case.–

First, as will be noted from Judge James' decision, he found it necessary to consider only the mechanism in use in these attendant-controlled elevators, plus the mechanism in use in the common full-automatic apartment-house type of elevators, to arrive at the conclusion that there was nothing basically new in the Parker patent.

Second, it will be later shown that the scope pretended for some of the claims of the Parker patent is so broad as to include the common attendant-controlled elevators, and to be anticipated thereby.

Third, plaintiff, in making a pretended comparison of the defendant's apparatus with the apparatus of the Parker patent, has very astutely identified in both apparatuses merely the devices which were a common part of every elevator, failing to compare defendant's elevators with any of the automatic stopping mechanisms of the Parker patent.

Fourth, the evidence shows that both plaintiff and defendant, in making their automatically stopping attendant-controlled elevators, utilized for the push-button control merely the ordinary push-button circuits used on attendant-controlled elevators for signalling the elevator to stop the car, and did not use the inoperative control means shown in the Parker patent. And,

Fifth, the evidence shows that, once a successful means had been developed for the automatic stopping of a high-speed elevator car, it was at once apparent to the elevator engineer that the ordinary signal circuits of attendant-controlled elevator cars could be used to prepare this new slow-down and stopping

mechanism to operate; and it is admitted in the testimony of plaintiff's experts that this was in mind and apparent to elevator engineers prior to the alleged Parker invention.

Every common, ordinary attendant-controlled elevator possesses a primary circuit leading from a car-switch to a pole-changing switch, which car-switch could be moved in one direction to operate the pole-changing switch to start the motor in one direction and which car-switch could be reversed to start the motor in the opposite direction. This is admitted in the testimony of plaintiff's engineer Crabbe.–

> "The patent describes any known means for starting the motor. It was old in elevators or in printed descriptions of elevators at the time of the Parker patent, say as early as prior to the summer of 1920 to have a car switch in a car which controlled the circuit to the pole-changing switch which pole-changing switch controlled the drive to the car.
>
> "It was not new to show that schematic arrangement for the operation of the pole-changing switch from a contact in the car switch.
>
> "In that old mechanism the car switch could be passed in one direction to open the pole-changing switch to start the motor in one direction and the switch could be reversed to start the motor in the other direction through the pole-changing switch." [R. 207.]

It is further admitted in the patent that there was nothing novel in either the motor circuit of the Parker patent (Figure 2 of this brief) or the primary circuit (Figure 1 of this brief) except the particular construction of the car-switch.–

> "No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself." (patent, p. 1, lines 49-53.)

The signal circuits used in the common attendant-controlled elevators are illustrated in the Smalley & Reiners patent, Defendants' Exhibit X-11 [R., Vol. 3, pp. 341-60]. These signal circuits are of the same type as were before this Court in the case of *Randall Control & Hydrometric Corporation v. Elevator Supplies Co.,* 15 Fed. (2d) 767. The evidence establishes that defendants, in the elevators complained of herein, employed a Randall signalling system, for many years a common commodity in the elevator art, and used the same in its automatic-stopping elevators.

In Figure 8 of this brief we have reproduced an example of the secondary control circuits of the Smalley & Reiners patent, indicating the operation of the circuits set up by pressing the fourth floor "up" hall-button. In this Figure we have used the identical symbols employed in the Smalley & Reiners patent to indicate the different magnets, push-buttons, etc., so that the circuit may be more readily found in the Smalley & Reiners patent. There are three circuits in the selector means of the Smalley & Reiners patent. These are:

1st, a circuit which is immediately completed when the hall-button is pressed to energize a magnet to close a switch leading to a selector;

2nd, the circuit from this thus closed switch to the selector, which when completed by the selector operates a flashlight in the elevator car; and

3rd, an independent circuit connected with the independent contacts on the selector to be completed as the car leaves the floor after the stop for energizing a magnet to reset the switch connected with the selector.

The first circuit may be traced on the drawing, Figure 8, as follows: From the generator positive through the line V, through a night-bell W^1, line X, through the hall-button D, through line E^4, through the magnet T^4 and line X^3 to the generator minus. The magnet T^4 when it is energized closes a mercury dash-pot switch S^4 leading to the floor selector.

The second circuit may be traced from the battery plus through the line b, through the flashlight B in the elevator car, through the line b′ to the contact strip M^2, thence by the moving bridge K^3, K^5, to the contact 6 of the selector, thence through switch S^4 and line f^3 to the battery minus. This second circuit is completed when the car arrives at a fixed distance from the landing in order to indicate to the operator, by lighting the flashlight B, that the car is to stop at the landing.

The third circuit may be traced from the generator positive through the line 82, through the button C in the car, thence by line 81 to the strip M^3 of the selector, through the bridge K^4, K^7, contact 11 of the selector, line 80 and reset magnet R^4, line 83, line X^3 to the generator minus. This circuit is completed after the car has stopped at the landing and left the floor, and its purpose is to energize the magnet R^4 to pull the switch S^4 again to the open position so that no other car will stop at the landing until the hall-button is again pressed. The button C in

the car is employed by the operator to preventing resetting of the switch S^4 in case he deliberately passes the landing, or in case, after he stops at the landing, he finds that he cannot take into his elevator car all of the waiting passengers.

The secondary control circuits of the Smalley & Reiners patent, and particularly the second one herein described, should be compared with the secondary control circuits of the Parker patent, particularly with the secondary circuit for the hall-button as illustrated in Figure 4 of this brief. Comparing these two circuits, they will both be found to possess:

(a) a switch manually closed by a waiting passenger, that is, the switch S^4 of the Smalley & Reiners patent and the switch j^2 of the Parker patent.

(b) In each case these manually closed switches are in circuit with the contacts of the floor selector, being the contact 6 of Smalley & Reiners and the contact f^2 of Parker.

(c) In both the Parker patent and the Smalley & Reiners patent, the selector has a moving arm which is to complete the secondary circuits, this moving arm being the bridge K^3, K^5, in Smalley & Reiners, and the arm 34 of Parker.

(d) In each case, in the same circuit with the aforementioned devices, there is provided means for stopping the car. In Parker this means is the neutralizing magnet 37, while in the Smalley & Reiners patent this means is the flashlight B.

There was nothing new in the secondary control circuits of the Parker patent. These circuits were already in every common, ordinary car-switch elevator. The only pretended novelty of the Parker patent was in using these

circuits already present for the purpose of unlatching Parker's new form of master control switch. Clearly, Parker did not make any such broad, generic and pioneer invention as would justify construing his patent to cover the use of these old, well-known signal control circuits for signaling or preparing an elevator car to automatically stop at a landing independent of the particular instrumentalities by which these signal control circuits were connected with the elevator mechanism to cause the stopping of the elevator car. Yet plaintiff's position in this case, when analyzed, is simply that if one employs the old car-switch elevator and the old signal circuits and in addition thereto causes the car to stop automatically when the push-buttons of the signal circuits are pressed, (independent of the means or instrumentalities connected with the signal circuits for stopping the car,) the Parker alleged invention is embodied. In other words, if defendants employ well-known expedients common to any elevator and by any means at all cause the elevator to produce the same ultimate functions or results sought in the Parker elevator, such an elevator embodies the Parker alleged invention. This is a subterfuge by which plaintiff endeavors to avoid the rule that one cannot patent the function or mode of operation of a machine. The rule is sought to be avoided, not by identifying any of the means for stopping of the Parker patent and comparing the means with defendants' elevators; plaintiff compares only so much of the elevators as was admittedly old and in common use, and then also compares the functions. The only mention which plaintiff makes in its brief of the signal control circuits which were common in car-switch elevators is the statement under the heading of "Smalley & Reiners Patent," as follows:—

> "But defendants do not adopt any of the prior art starting and stopping controls, most of which they are free to use." (Pl'ffs Br., pp. 167-8.)

Plaintiff's statement that defendants are entitled to employ the prior art starting and stopping controls is clearly sound in law. But plaintiff's statement that defendants have not employed the prior art starting and stopping controls is directly contrary to the undisputed evidence in the record. The signal control circuits employed by defendants are not only identical with the signal control circuits of the ordinary car-switch elevator, such as are illustrated in the Smalley & Reiners patent, but defendant actually purchased these signal controls on the open market, using some of these signals to equip its manually controlled elevators and some of them to equip its automatic stopping elevators. The signal control apparatus in common use in car-switch elevators previous to the Parker patent were before this Court in *Randall Control & Hydrometric Corporation v. Elevator Supplies Co.*, 15 Fed. (2d) 767. In the first automatic stopping elevators made by defendant it used signal systems purchased from the Elevator Supplies Company. In the elevators complained of herein it used signal systems purchased from the Randall Control & Hydrometric Corporation [R. 372]. It did not use with these signal systems any of the means disclosed in the Parker patent for causing them to stop an elevator. As we shall later show, in discussing defendants' system, these signal control circuits so purchased on the open market were substantially identical in means with those of the old Smalley & Reiners patent. They each include a manually operated switch operated by the push-button, which manually controlled

switch was in the same circuit with a switch on a floor selector and also in circuit with a device for indicating to the operator that the car was to stop at the floor. It will be further noted that in the later forms of these signal systems, in place of the flashlight itself being in the secondary control circuit, a relay or magnet was substituted for the flashlight, which closed a second circuit to the flashlight. The fact that the circuit to the selector in the machine of the Smalley & Reiners patent does not itself include the push-button, but instead a switch closed by the push-button, of course is immaterial. No point can be made by plaintiff of this difference, because the same difference is in defendants' system. Thus plaintiff's expert Sessions testified with respect to defendants' system:–

> "In the hall push-buttons in the defendants' device there is a circuit intermediate the actual push-button circuit and a circuit which includes the two gaps in series. This circuit that is intermediate has one of its gaps closed when the push-button is operated, and the other gap is closed later; but neither one of these gaps is in the original push-button circuit operated by the waiting passenger." [R. 543-4.]

No possible invention could be ascribed to the mere idea of using these old signal circuits in an automatic-stopping elevator independent of the means or instrumentalities by which the elevator was caused to automatically stop after the actuation of these old signal circuits. In the first place, it must be remembered that invention does not reside in an "idea", but the court must find that with this "idea" in mind, the devising of means for producing an elevator embodying the "idea" required the exercise of inventive skill.–

> "The idea occurred to Treat to device a plug which would take either, and this was a novel and useful idea; but invention is not involved in a mere idea. The question always is whether the article devised to carry out the idea involves invention or only ordinary mechanical skill."
>
> (*Treat v. Red Top Electric Co.*, 271 Fed. 307, at 308 – C. C. A. 2nd Cir.)

But even the idea was not new with Parker. It was in the minds of all electrical engineers. Attendant-controlled elevators which were stopped automatically by push-buttons were not in use in 1920, because means had not been devised by which the elevator car could be stopped automatically when traveling at high rates of speed. As soon as these means were devised, they were operated by the old push-button circuits, and did not include anything invented by Parker. Plaintiff's experts admit that long prior to Parker, and during their work on means for stopping high-speed elevator cars, it was apparent that push-buttons should eventually be used to operate the same. Thus plaintiff's expert Crabbe testified:–

> "As to how long the Otis Elevator Company recognized the need of an elevator that performs the functions of the Parker patent, I remember a conference occurring in the office of Mr. Lindquist, the Chief Engineer, shortly after the Armistice was signed, in which a general discussion of automatic stopping of car switch control elevators was had."
>
> [R. 266.]

Crabbe further admitted that at the time the "idea" occurred to him it was obvious to accomplish this automatic stopping by push-buttons on the floors and in the cars.–

"I presume that the obvious way at that time was to do it by push buttons on the floors and in the cars. I cannot recall whether that was actually said to be the best way or not but I imagine that was what was considered." [R. 266-7.]

The use of push-buttons connected with floor selectors in combination with a device for breaking a running circuit of an elevator to stop the car, was also old in the art. This is admitted by plaintiff's expert Crabbe:—

"It was not new in the industry to have a push-button which would close and open the pole-changing switch through an automatic floor selector." [R. 207.]

The Secondary Control Circuits of the Smalley & Reiners patent being therefore old in the art, and it being also old to use similar circuits for stopping elevator cars, Parker clearly could not monopolize the use of these old circuits, except possibly to cover the particular way and means devised by Parker for combining together these old signal circuits and a car-switch. The Secondary Control Circuits being old in the art, they were open for anyone to use for any desired purpose, as long as one did not employ therewith the particular combination of the Parker patent.

The case of *Electric Railroad Signal Co. v. Hall Railway Signal Co.*, 114 U. S. 87, 29 L. ed. 96, is particularly in point. The Supreme Court there had under consideration a patent dealing with electric switches, circuits and relays used in a railway signal control system. It was urged that the patent in suit covered and could dominate a certain scheme or idea of signal operation, independent

of the particular devices described in the patent for that purpose. The defendant employed only apparatus which was old in the art, and employed none of the particular novel devices of the patent in suit. But the defendant also used the same idea or process of signaling trains, known as the "block" signal system, as first described in the patent in suit. The Supreme Court held that inasmuch as defendant's system did not have any of the novel devices of the patent in suit, and did not have any of the devices combined together in the same way as the patent in suit, that the patent was not infringed. The Court held specifically that one could not exclude the art from using in a signal system devices well known in the art. Any other decision would of course have given the patentee a monopoly upon an idea, even though one employed nothing new in the way of instrumentalities in carrying out the idea. The Court said (p. 98):—

> "In considering them it is important to bear in mind that the patent is for a combination merely, in which all the elements were known and open to public use. No one of them is claimed to be the invention of the patentee. He does not claim them himself as separate inventions. It is simply a new combination of old and well-known devices, for the accomplishment of a new and useful result, that is claimed to be the invention secured by the patent. And the well-settled principles of law heretofore applied to the construction of patents for combinations merely, must apply and govern in the present case.
>
> "The object of the patented combination was the accomplishment of a particular result, that is, to work electric signals on what was known as the

'block' system, by means of circuits, operated by a single battery instead of many. But this result or idea is not monopolized by the patent. *The thing patented is the particular means* devised by the inventor by which that result is attained, leaving it open to any other inventor to accomplish the same result by other means. To constitute identity of invention, and therefore infringement, not only must the result attained be the same, but in case the means used for its attainment is a combination of known elements, the elements combined in both cases must be the same, *and combined in the same way,* so that each element shall perform the same function, provided, however, that the differences alleged are not merely colorable, according to the rule forbidding the use of known equivalents." (Italics ours.)

Full-Automatic Elevators.

The common full-automatic elevator may be briefly described as an elevator which is provided with push-buttons at the floor landings and in the car, whereby the elevator can be started and will be stopped automatically. These elevators have been in common use in installations where there was only an intermittent use of the elevator, such as in smaller office buildings, apartment-houses and private dwellings. In these elevators there is no attendant riding in the car, the car being controlled entirely by the passengers using it.

In such elevators, the floors served by the car are provided with push-buttons at the floor landings, which may be operated by the person desiring to use the car. The pressing of a button operates a starting switch for the car which keeps the car in motion until it approaches

the desired floor. A floor selector, which is in the same circuit with the switch closed by the push-button, operates to open the starting circuit and stop the car at the floor. Also in the car itself there are a number of push-buttons, one for each floor served by the car, which may be pressed by persons in the car to operate the starting switch and cause the car to go to the corresponding floor, where it will be stopped by the floor selector, just as in the operation of the hall push-buttons. These elevators are intended to be operated without any attendant, and are therefore made "non-interfering" by the use of a "non-interference" magnet, by which, after the elevator has been signalled for starting and stopping by one push-button, no other push-button can control or affect the operation of the car. Yet we have all had the experience of riding in these elevators, when this non-interference magnet did not work, and when the elevator did stop at floors in response to the signals of other persons. It hardly could be pretended that it would amount to an invention to either omit the non-interference magnet or to fix the same so that it would not operate efficiently.

The mechanism within the common full-automatic elevator is, in one form at least, illustrated in the Ihlder Patent, Defendants' Exhibit X-13 [Record, Vol. 3, pp. 369-382].

Judge James stated:—

> "On October 7, 1902, a patent was issued to J. D. Ihlder (No. 710914). Ihlder's system included a single push button at each floor and push buttons in the car by which the car would be started and

would automatically stop at the indicated floor. He further provided that the system should be 'non-interfering', in that after a button indicating a particular floor was once pushed, the pushing of another button on another floor would not stop the car before it reached the first indicated stopping point. One of the features of the Parker system is that the car will be stopped at the different floors in succession where several buttons have been simultaneously or successively set. Ihlder had the particular purpose of making his non-interfering, but as defendants' counsel argues, the mechanism of Ihlder's system might easily be adjusted, using ordinary engineering skill, so as to be either 'interfering' or 'non-interfering.' " [R. 638-9.]

The essential elements of the control circuit of the Ihlder patent are reproduced on the drawings, Figures 9 and 10 of this brief. In the drawing, Figure 9, we have illustrated the operation of the elevator, assuming that the sixth floor button g^6 is pressed. The circuit set up may be traced either on the drawing, Figure 1 of the Ihlder patent, or the drawing, Figure 9 of this brief. The circuit is described by Ihlder as follows:–

"* * * the button g^6 is pressed for an instant, closing the circuit, which may be traced through the conductor H, contacts h' to h^6, through the circuit-breaking magnet E, the coils of which are wound in opposition, through the armature E′ and conductor e^6 to conductor d^6, through the coil of the corresponding circuit-making magnet D to the brush f^6, bearing on the contact C^4. Thence the current passes to the brush c' through the coils B^{10} of the electric reversing-switch B to the minus main."

[Record, Vol. 3, p. 377, lines 57-68.]

Ihlder also discloses a holding magnet and a holding circuit energized thereby, rendering it possible to release the starting switch without interrupting the running circuit to the pole changing switch. This holding magnet and holding circuit are described by Ihlder as follows:—

> "In order to overcome the necessity of holding the push-button g^6 in contact position and in order to prevent interference with the elevator when it has once started, the circuits are arranged so that immediately on completion of the circuit closed by the push-button g^6 the circuit-making magnet D attracts its armature D′, making a parallel and shorter circuit through the door-contacts h′ to h^6, conductor H, through one coil only of the circuit breaking magnet E and the armature and coils of the circuit-making magnet D, through the brush f^6, and out, as before."
>
> [Record, Vol. 3, p. 377, lines 92-104.]

The motor circuit shown on Figure 10 of this brief is practically a duplicate of the motor circuit of the Parker patent shown on the drawing, Figure 2 of this brief. The only substantial difference is that Ihlder illustrated the circuits for the fields of the motor. The motor circuit is described in the Ihlder patent as follows:—

> "This energizes one of the magnets of the electric reversing-switch, moving the armature B^3 thereof in the proper direction, causing its double-faced contact b b′ b^2 b^3, respectively, to make contact, say, with the contacts b^4 b^5 b^6 b^7, thus closing the circuit of the motor, which may be traced as follows: from the plus main through the contacts b^4 b to binding-post a, whence a branch includes the brake-magnet A^3. From post a extends a conductor to the series field-magnet coils A^2, thence through the binding-

post a^3, contacts b', b^5 b^{10}, binding-post a^2, through the armature to binding-post a', contacts b^9 b^6 b^2 b^3 b^7, and out, thus causing the motor to rotate in a certain direction to raise the elevator."

[Record, Vol. 3, p. 377, lines 68-83.]

Comparing the Ihlder patent with the Parker patent in suit, it will be noted that the main difference resides in the fact that Ihlder combined together the primary control circuit and the secondary control circuit in order that one push-button would serve both the purpose of starting and stopping the car. Comparing the control circuits of Ihdler (Figure 9 of this brief) with the primary circuit of Parker (Figure 1 of this brief), it will be noted that both circuits include a starting switch (switch g^6 in Ihlder, and the car switch 9, 10 in Parker). In each case a circuit leads from the starting switch through the coil of a pole-changing switch, coil B^{10} in Ihlder, coil 16 in Parker. In each case the effect of closing the starting switch is to energize a pole-changing switch, and in each case to close the motor circuits. The motor circuits are identical. As seen from comparing Figure 2 of this brief, showing the motor circuit of the Parker patent, with Figure 10 of this brief, showing the motor circuit of Ihlder, both of these circuits merely include contacts of a pole-changing switch which connect the motor with the plus and minus mains. It will also be observed, by comparing Figure 9 with Figure 1 of this brief, that the closing of the starting switch, both in Ihlder and in Parker, energizes a holding magnet to establish a holding circuit. The holding magnet is 32 in Parker, and is D in Ihlder. In both cases the starting switch may now be released and the elevator continued in operation.

The master in his report apparently entirely overlooked the presence of this holding magnet D and holding circuit in the Ihlder patent. He stated with respect to the Parker patent:—

> "Passing through the coil 32 he has added another circuit not found in the prior art. This circuit is set up by the bridging of the contacts 9 and 10 and it results in removing the control from the operator's manual switch. The idea of a self-holding switch was not new but the application of that principle here is novel." [R. 561-2.]

By this it is apparent that the master was of the opinion that while self-holding circuits were old in the art, the art had never employed the same for the purpose of holding a starting circuit to an elevator motor closed. Clearly, without question, the master has erred, as this identical holding circuit is as fully and completely described in the Ihlder patent as it is in the Parker patent. Moreover, Ihlder's self-holding circuit will operate, where Parker's is inoperative for the reasons heretofore given.

The circuits set up for stopping the car, in the Ihlder patent, are likewise identical in operative means with those utilized in Parker. This can be seen from a comparison, for example, of the circuit, Figure 3 of this brief, showing the Parker secondary control circuit, with the circuit, Figure 9 of this brief, showing the Ihlder secondary control circuit. In both cases we will find that a circuit leads through the switch used to start the car: the switch 10, 11 of Parker, and the switch g^6 of Ihlder. This same circuit also includes the push-button used to stop the car: the push-buotton d^2, b^2 of Parker, and the push-button g^6 of Ihlder, the difference here being only

that one push-button in Ihlder is intentionally made to accomplish both the purpose of the starting switch and the stopping switch. The circuit in both cases also includes the contacts and brushes of a floor selector; the contact f^2 and ring g and brush 34 of Parker, and the brushes c', f^6, and ring section C of Ihdler.

These circuits differ from each other only in that Ihlder's selector operates to directly open the starting circuit, whereas Parker energizes a neutralizing magnet 37, which opens the car switch 10, 11 to break the starting circuit. No claim of the Parker patent is founded upon any such distinction in means, and if this distinction in means be an essential element of any claim of the Parker patent, as we will show hereinafter, the claim would consequently then not be infringed by the defendant's system, because defendant finally opens the circuit, which is established to start the car, by a switch opening in that circuit, rather than by energizing a magnet through the selector to in turn open that starting switch. (Furthermore, it will be shown that the circuit through defendant's selector has no connection at all with the opening of defendant's primary circuit which is closed when the car switch is closed, the apparatus which opens this primary circuit being a totally independent apparatus.)

The master in his report differentiated the Ihlder patent from the Parker patent, not in any essential attribute of means or devices, but merely in the major purposes intended by Parker for his system, and Ihlder for his system. The master pointed out that Ihlder deliberately intended the push-button circuits should not be interfering, stating:—

"'Again the system is non-interfering, in that when a push button at one floor has been pressed the pressure of any push button at other floors will not interfere with the operation of the elevator.' Page 1, lines 56 to 60, Ihlder patent.

"One of the principal features of the patent in suit is that it provides a means whereby a passenger can stop the car and enter it after it has been started by the operator. The Ihlder control provides means for starting the car from a landing, a feature that would be undesirable in Parker's control. Ihlder does show a floor selector much the same in principal as Parker's. The differences in function pointed out result from differences in structure. There is no holding circuit in Ihlder which can be broken by any stopping circuit set up either in the car or at the landings. The running circuit once established can be broken only by one stopping circuit, the selection of which is made when the car is started." [*Master's Report*,—R. 560-1.]

We have before shown that the master erred when he said that in Ihlder there was "no holding circuit." Ihlder shows a holding circuit that is identical with the holding circuit of Parker. The only difference that can be drawn between the structures is that Ihlder did not employ the particular construction of Parker's so-called "master control switch," which it is admitted nobody ever employed, and which is admitted to be a "step backward" in the art.

Correcting the error in the master's report, concerning the holding circuit, the only difference that the master found between Ihlder and Parker was that Ihlder intended his elevator to be non-interfering, and for this purpose he provided, (as labeled on the accompanying Figure 9 of this brief,) the non-interference magnet E,

which would prohibit and prevent any other push-button stopping the car after the car had once been started by the operation of one push-button. It could hardly be classified as an invention to either place the non-interference magnet out of commission, or omit it from the system, or to make simple arrangements so that the push-buttons could stop the car to take on other passengers when desired. And in this connection we again refer the Court to that standard of ability possessed by the elevator engineer which plaintiff has insisted upon in its attempts to show that the Parker patent was operative. In view of all of those things which were within the ready ability of the ordinary electrical engineer, how can plaintiff contend that such a simple change could have required any exercise of the inventive faculty? Judge James clearly was correct in his decision that it would not be an invention to modify the Ihlder patent so as to eliminate this non-interfering magnet. It was placed in Ihlder for the express purpose of preventing passengers at different floors from interfering with each other. It was something which may have required invention to incorporate into the system, but would not be an invention to omit. Judge James stated:—

> "Ihlder had the particular purpose of making his non-interfering, but as defendants' counsel argues, the mechanism of Ihlder's system might easily be adjusted, using ordinary engineering skill, so as to be either 'interfering' or 'non-interfering.' " [R. 639.]

Plaintiff throughout its brief filed before this Court seeks to create the erroneous impression that Judge James misunderstood the Parker patent. Plaintiff says with respect to his opinion:

"In other words, while quoting from the Parker patent, he reads the Parker disclosure as contemplating the use of *push-buttons* located both in the car and at the landings *for starting the car.*" (p. 128.)
(Italics plaintiff's.)

On page 128 plaintiff says:—

"* * * he refers to the drawings as showing [R. 636]—

"'*means through electrical circuits* whereby, *by the operation of the push buttons,* the *power* of the *hoisting motor* would be *applied.*'"
(Italics plaintiff's.)

In Judge James' decision there is no period following the word "applied". Following the word "applied", appears:—

"and shut off, and circuit means whereby the push buttons, after the car reached the predetermined floor, would be reset. The master's report may be referred to for a more complete description of the Parker device. Distinguishing characteristics of that device are: When the *manual control lever* in the elevator car is moved *to an up position,* it moves a contacting plate across separate terminals, *which complete the circuit to operate a switch on the driving motor and the car moves upward.*" [R. 636.] (Italics ours.)

It is ridiculous for plaintiff to argue that Judge James did not understand that in the Parker patent the car was started by the car-switch and not by the push-buttons. (*)

(*) Plaintiff relies on an obvious typographical error in Judge James' opinion as the basis for its assertion that Judge James misunderstood the Parker patent, and at the same time argues that the master correctly described the defendants' system. Yet plaintiff has found it necessary to make at least ten corrections in the description of the defendants' system, contained in the master's report (Pl'ffs Br. pp. 50-52).

Judge James correctly found that the Ihlder structure disclosed everything plaintiff claimed was novel in the means of the Parker patent. It was admitted that previous to any invention alleged by Parker, every car-switch elevator possessed a car-switch for starting the elevator and push-buttons and selector circuits for signalling the elevator to stop. All that Parker did was to suggest that the selector should automatically interrupt the running circuits to the pole changing switch and thus break the current to the hoisting motor. This was identically what was done in the prior art full-automatic push-button elevators. The selector there is made to break the running circuit to the pole changing switch magnet B^{10} which immediately breaks the motor circuit (Figure 10 of this brief) and the car is stopped by the application of the electro-mechanical brake A^3. Elevator engineers knew exactly how to do what plaintiff claims was first discovered by Parker. They knew that the push-buttons in car-switch elevators could be made to cut off all the power to the elevator and set the electro-magnetic brake to automatically stop the car. This is all that Parker discloses.

Finally, plaintiff asks a question as follows:—

> "If, as the lower court suggests, ordinary engineering skill could have rendered the Ihlder circuits either interfering or non-interfering, why was this not done?" (Pl'ffs Br., p. 131.)

This question has been directly answered earlier in this brief. To automatically stop an elevator by opening all of the circuits and applying the brake abruptly to the elevator car was useful only in low-speed elevators. Low-speed elevators could be used only where traffic condi-

tions are not severe. For such use it is desired that the elevator be full-automatic, so that the expense of an attendant is obviated.

Plaintiff also states:—

> "Defendants are free to use the Ihlder patented structure as the patent expired more than thirteen years ago. Why didn't they use it instead of appropriating the Parker invention?" (p. 132.)

Plaintiff actually complains only because defendants do not employ the non-interfering magnet of Ihlder. Defendants do employ the push-button circuits shown in Ihlder, but without the non-interfering magnet. Plaintiff has not pointed to any feature of the push-button circuits employed by defendants which is described in the Parker patent but not in the Ihlder patent.

Prior Patented Elevators.

We have described the common attendant-controlled elevator and the common full-automatic elevator which were in use at the time of the alleged Parker invention. These types of elevators were in use after the development of the high-speed electric elevators. Before the advent of the high-speed electric elevators, many different types of automatic-stopping elevators were in existence. The first elevators which appeared in use were hydraulic elevators, and these elevators were first operated by mechanical devices. The next step in the art was the replacement of the mechanical devices by electric circuits, relays, magnets, etc., for operating the hydraulic motors. The idea of automatically stopping an elevator car from a push-button is almost as old as the art of elevators itself. Elevators were stopped by push-buttons, before there were electric

elevators, when elevators were operated by purely mechanical devices. Obviously, the first thing that would occur to anyone who thought of automatically stopping an elevator car would be to merely imitate automatically the motions that the elevator operator went through manually. The elevator operator manually moves a lever or starting device in one direction to start the car, and moves a lever or starting device in the opposite direction to stop the car. An examination of the early patents in the art shows that this is exactly what was done in the first automatic elevators. They were manually started by the attendant within the car moving manually a starting device. Then push-buttons were provided corresponding to the different floors within the car, which operated with selector cams at the floors for pushing the starting device again to the "off" position when the car arrived at the floor. Such devices are shown in numerous prior patents. They are shown in the patents to Nistle (Def'ts Exhibit X-14), Crouan (Def'ts Exhibit X-1), Worthen (Def'ts Exhibit X-15), and others.

The fact that Parker was unfamiliar with the elevator art led Parker to believe that what had been many times patented and used years before the date of the alleged Parker invention was new with him. Long prior to Parker's alleged invention the elevator art had abandoned any idea of stopping an elevator car by automatically returning to the "off" position the device moved by the elevator operator to start the car. The sole novelty of the Parker patent is correctly stated in the patent to be the provision of a means for electrically latching the car-switch in the running position and for automatically unlatching this car-switch by push-buttons when the car arrives at the landing. The master correctly found that

the use of such a device would be a step backward in the art.–

> "The actual form of his car switch is possibly a new form of a self-holding switch but it is evident that his form of switch was not an improvement. It was but a crude conception when compared with older means. At that time engineers had learned to put as many of the control circuits as possible in the pent-house and not in the car. It would be a step backward to bring the secondary circuits through the car." [*Master's Report*,– R. 562.]

Plaintiff defines the Parker invention as a control in which the operating and driving mechanism can be started only by the operator manually throwing the car-switch to the "on" position, and stopped in response to push-buttons either in the car or at the various landings.–

> "He finds that the Parker 'Control' so dominates the rest of defendants' elevator operating and driving mechanism that the cars can be *started only* by the operator manually throwing the car switch to 'on' position, and are stopped in response to buttons pushed either in the car or at any of the various floor landings, and the car thereby brought to rest, at the desired floors, in proper sequence." (Italics plaintiffs.) (Pl'ffs Br., p. 47.)

Plaintiff goes further than this. Plaintiff says that it is "unnecessary to go into the various ramifications and details of additional electrical relays, * * *" (p. 47). These assertions made by plaintiff are manifestly unsound in view of the prior art. The early automatic elevators could be started only by the operator manually throwing a starting device or switch in the car and could be stopped in response to push-buttons either in the car or at the

various landings and the car thereby brought to rest at the desired floors in proper sequence. None of the earlier automatic elevators had the particular non-interfering feature of the full-automatic elevator shown in the Ihlder patent.

The patents to Crouan (Def'ts Exhibit X-1), Bullock & Hanson (Def'ts Exhibit X-2), Nistle (Def'ts Exhibit X-14), each shows the old hydraulic elevator provided with a mechanical control in which there is one device within the car for the attendant to manually operate to start the car and in which there are a plurality of mechanical push-buttons which can be operated in any desired order for thereafter automatically stopping the car. The patents to Strohm (Def'ts Exhibit X-10) and Worthen (Def'ts Exhibit X-15) disclose electric controls for elevators provided with push-button-operated electric switches for automatically stopping an elevator which is manually started by an attendant.

The prior art not only had Parker's plan of automatically stopping the car by automatically returning the car-starting device or switch to the "off" position, but the elevator art had developed other automatic stopping elevators in which the car is started by a car-switch but in which the push-button circuits were caused to interrupt the running circuit to the car without acting through the car-switch itself (Strohm). Electric control circuits using push-buttons were known both for push-buttons outside and for push-buttons inside the car. It is not our intention here to burden the Court by referring to a large number of these patents. We intend only to refer to sufficient thereof to show that there was nothing new in the Parker patent in using secondary control circuits con-

nected with push-buttons either at the hall or in the car for opening the primary running circuit of an electric control for an elevator to automatically stop the car. Judge James in his opinion correctly stated:–

> "It would only serve to prolong this opinion to unnecessary length were I to discuss and analyze the several prior art patents which were introduced in evidence, all referring to systems for the starting and stopping of elevator cars by electrical means, including the use of push-buttons at the floors and in the car. All of these are illustrated in the exhibits and in the printed brief filed by the defendants. As to the form and mode of operation of the devices represented, there is no dispute. They are all cumulative evidence to the point that at the time Parker conceived his invention the art in which he was working was highly developed." [R. 639.]

Strohm Patent (Defendants' Exhibit X-10).

This patent discloses an elevator which is operated by a device within the car for starting the elevator, and stopped by means of push-buttons at the hall landings. Two forms of elevator are shown, one in Fig. 1 of the patent, in which a control rope A passes through the car, to be pulled by the attendant to start the car in either the "up" or "down" direction, and the other, in Fig. 2, wherein the ordinary electrical car-switch is provided within the car. The motor for driving the elevator in Strohm is an hydraulic motor. In an elevator driven by an hydraulic motor, the elevator car is moved up and down in the shaft by the operation of a piston moving in an hydraulic cylinder. Water is admitted into the cylinder or discharged from the cylinder to lower or raise the elevator car. The direction of the flow of water is controlled by

valves. These valves are operated by magnets, one magnet for "up" direction and the other magnet for "down" direction. Any electrical equipment which is suitable for starting, stopping or controlling an electrically-driven elevator is equally adapted for controlling an hydraulic elevator, and *vice versa*. The only difference between the two systems is that in case of the electric elevator, the primary circuit energizes a coil of a "pole-changing switch," whereas in the case of an hydraulic elevator the primary circuit energizes the coil of a "valve mechanism."

The primary control circuit of the Strohm patent and the secondary control circuit of the Strohm patent are reproduced respectively as Figures 11 and 12 of this brief. In the Strohm patent, two different forms of elevator are illustrated.

First.– In the form shown in Fig. 1 of Strohm there is a rope within the car which operates a switch for energizing a holding and releasing magnet which closes the primary circuit to the "up" magnet of the hydraulic motor. The primary circuit operated by the control rope is the first circuit on Figure 11 of this brief. The rope closes a switch to energize the magnet f which closes its contact 67 and establishes the primary circuit which may be traced from the positive main through the switch 67, through the "up" magnet H to the negative main. The magnet H is the magnet which opens the "up" valve on the hydraulic motor.

Second.– In the form shown in Fig. 2 of the Strohm patent, a car-switch is employed and this car-switch has its contacts directly in a primary circuit. This circuit is the second circuit on Figure 11 of this brief. As there illustrated, there is a car-switch 85 which can be moved

in one direction to make contact with contact 86 to energize the "up" magnet. If it had been moved in the opposite direction, it would have contacted with contact 87 to energize the "down" magnet. We have shown the switch in the position it is moved to energize the "up" magnet. The circuit so completed may be traced as follows: From the battery plus through a fuse, through the contact 67 of the holding and releasing magnet f, through certain contacts of switches 83, 84, which are on the doors of the elevator car, through the car-switch 85 and its contact 86, thence through the line 82 and a fuse, through the coil of the "up" magnet H to the negative main.

Comparing this primary control circuit (Figure 11 of this brief) with the primary circuit of the Parker patent (Figure 1 of this brief), it will be seen that the two circuits each contains the following:

(1) Each circuit includes the contacts of a car-switch, (the contacts 10 and 11 of Parker, and the contacts 85 and 86 of Strohm);

(2) Each circuit includes a direction magnet (the magnet 16 of Parker's pole changing switch and the magnet H of Strohm's "up" valve);

(3) Each circuit includes an element of a holding and releasing magnet (the magnet f of Strohm and the holding magnet 32 of Parker).

The secondary control circuit of Strohm is illustrated in Figure 12 of this brief. This circuit includes identically the same three elements which are present in the secondary control circuits of the Parker patent. That is, it includes the coil of the holding and releasing magnet f; it includes a push-button switch F, and it includes a switch

operated by a selector 29. The circuit is copied from Fig. 1 of the Strohm patent, in which the rope control was employed, and it includes the contacts b and d used with the rope control. Strohm did not illustrate the form of secondary control circuit to be used with his elevator with the car-switch shown in Fig. 2 of the Strohm patent. In Fig. 2 he shows a circuit leading to the holding and releasing magnet f extending only through certain door-contacts, but he states:—

> "It will of course be understood that with the modified form of device shown in Fig. 2 push-buttons may be provided on the landings for stopping the elevator thereat, as explained above, but for the purpose of clearness I have omitted said push-buttons and the accompanying elements from this view."
>
> [Record, Vol. 3, p. 335, lines 79-85.]

The contacts b and d in the secondary control circuit would be omitted using the second primary control circuit shown on Figure 11 of this brief, because in such case the starting switch has been placed in the primary circuit as shown by the car-switch 85. Tracing the secondary control circuit of the Strohm patent, the circuit leads from the battery plus to the line 4, thence by contacts b and d which are closed by the rope through the holding and releasing magnet f, thence through a number of safety devices and contacts on the elevator doors illustrated by 71, 73, 74, and 7 and 8 (part of this circuit being grounded through the car itself), thence to two parallel circuits, one leading to contacts 19 and 20 of the hall push-button F and the other leading to contacts 29 and 32 upon the selector switch which is to be operated by the shoe G on the car. Thence the circuit leads

through a plurality of other hall-buttons and selector switches represented by the break in the circuit, through the line 5 to the battery minus.

This circuit operates as follows: If the push-button F is pressed, it disconnects contacts 19 and 20. The circuit is still established for energizing the holding and releasing magnet f which must be energized to hold the primary circuits closed. When the shoe G on the car strikes the selector switch 29, this switch is likewise opened and thus the combined operation of the push-button switch and the selector switch operates to deenergize the holding magnet f when the car arrives at the floor corresponding to the push-button F. The selector circuit of Strohm has identically the same mode of operation as that of the Parker patent. When this selector operates it deenergizes the holding magnet f. This holding magnet, as can be seen by reference to Figure 11 of this brief, opens its contact 67 in the primary circuit, thus deenergizing the "up" magnet H.

Comparing the secondary control circuit of Strohm (Figure 12 of this brief) with the secondary control circuit of Parker for hall-button (Figure 4 of this brief), it will be observed that each of these circuits includes:

(1) a hall push-button, being the contacts l^2 and j^2 of Parker, and the contacts 19 and 20 of Strohm;

(2) the contacts of a selector which is to be operated at the time the car arrives at the landing, these being the selector contacts f^2 and traveling arm 34 of Parker, and the selector contacts 29 and the traveling shoe G on the car of Strohm;

(3) the coil of a releasing magnet, which coil is to break the primary control circuit. In Parker this coil is the releasing magnet 37. In Strohm this coil is the holding and releasing magnet f.

The Parker patent was therefore not the first to provide a car-switch-started elevator including a primary control circuit with a connection between the secondary control circuit including push-buttons and floor selector contacts which would "interrupt the main driving" circuit at predetermined points in the line of travel of the car (Parker patent, p. 1, lines 51-7).

This is identically the mode of operation of the Strohm patent. As Judge James says, there is no dispute in the evidence as to the Strohm patent or as to how it operates. The Strohm patent is fully described in the record in the testimony of defendants' expert Doble [R. 437-9]. Contrary to the statement in Plaintiff's Brief, the only evidence in the record is that the mechanism in the Strohm patent was placed in practical use [See R. 471-2]. There is no difference between the Strohm patent and the Parker patent in the functions of the elevator. The push-buttons of the Strohm patent can be pressed in any desired order and when started by the car-switch the car will stop in the order of the floors.

> "Yes; the car would stop in response to different push-buttons, which could be actuated at random, and the car would stop in the order of the floors."
>
> [Doble – R. 438-9.]

One set of push-buttons is described in the Strohm patent which can be used for stopping the car when the car is traveling upwardly, and a second set of push-buttons is shown in the Strohm patent which can be used for stopping the car when the car is traveling downwardly. The patent shows two sets of push-buttons at the landings and two shoes G, one of which may be retracted when the car is traveling upwardly so that this set of switches

may be used to set up "down" signals and will not be operated by the upwardly moving car. The other may be retracted when the car is moving downwardly and the first shoe extended so that the button used to stop the "up" car will not stop the car when traveling downwardly. Thus defendants' expert Doble testified, without contradiction in the record:–

> "There are two hand-controlled automatic stopping cams on the car that are arranged with ropes so that they can be disconnected or put out of actuation from within the car, and one may be used for going up and one may be used for going down.
>
> "Not as specifically shown are there two buttons at each landing, one for stopping a car while traveling in the up direction and another for stopping a car while traveling in the down direction, in the Strohm structure.
>
> "But the fact that there are two buttons there would indicate to any engineer that one was intended for up and the other for down. Otherwise there would be no utility in having them." [R. 483.]

The Strohm patent therefore differs from the Parker patent mainly in the fact that Strohm does not disclose another like set of push-buttons in the car for automatically stopping the car by buttons located within the car. Such duplication of buttons in the secondary control circuits connected therewith would clearly not constitute an invention. Particularly is this true when, as appears hereinafter, there were many patents in the art illustrating electric elevator systems provided with such push-buttons within the car to "relieve the memory of the operator" which could be operated in any desired order for stopping an elevator car automatically. Patents in the record illus-

trating this are Crouan Patent (Def'ts Exhibit X-1); Nistle Patent (Def'ts Exhibit X-14); and Worthen Patent (Def'ts Exhibit X-15).

Plaintiff's Brief, in discussing the Strohm patent, denies but does not prove that Strohm has the very elements which we have herein specifically identified. Plaintiff also states:—

> "* * * there is more than one control means for causing the starting of the car; * * *" (p. 163.)

By this plaintiff merely refers to the fact that Strohm included in his primary and secondary control circuits different contacts on the doors of the elevator car and elevator landing which would inhibit the car starting whenever the doors to the car were open. By this structure, of course, just as with any elevator, one can put the car-switch on the "on" position if the elevator car door is open, and the car will not stop. He may then get out of the car and close the door and such operation will start the car. Defendants' elevators likewise cannot be started unless the car door is closed. [See testimony of DeCamp, R. 311, 324.] Defendants' doors or the latch on defendants' car-switch are as much another distinct means of starting the car as the doors of the Strohm patent.

Plaintiff also refers to the fact that Strohm intended that the elevator shown by him in Fig. 1 of his patent could be operated either by an attendant or without an attendant. For this purpose Strohm provided at the terminals of the elevator shaft automatic devices, cooperating with the rope control of Fig. 1 of his patent, which reversed the elevator car automatically. By providing these devices he enabled the elevator operator to get out

of the car and start the car by closing the door. The car would then travel up in the shaft to the top, be automatically reversed, and travel to the bottom, etc., and the passengers could stop the car by pressing the push-buttons at the landing. The fact that Strohm provided these supplementary devices did not prevent the operator remaining in the car, if the traffic was severe, and starting the car manually by the car-switch rather than by the doors. Moreover, in the form of the Strohm patent shown in Fig. 2 thereof, there are no reversing mechanisms at the terminals of the shaft, and those shown in Fig. 1 of the Strohm patent could not be used with the car-switch-controlled elevator of Fig. 2. Thus it is clear that with the elevator of Fig. 2 the attendant must remain in the car and start the car by the car-switch, leaving it only to the passengers to stop the car by the push-buttons.

Nistle Patent (Defendants' Exhibit X-14.)

The patent to Nistle is one example of a prior elevator which was started by the manual operation of a car-starting device within the car and stopped by the actuation of push-buttons located within the car corresponding to the different floors. The Nistle patent states:—

> "The object of my invention is to provide a simple and reliable mechanism of the character stated which may be operated by merely pushing a button or equivalent device which indicates and corresponds with the floor at which a passenger may desire to land." [R., Vol. 3, p. 389, lines 14-19.]

The means of the Nistle patent were mechanical in nature. The car-starting device was the control rope 12.

The push-buttons 19 were mechanical push-buttons, each of which operated a lever 17 which was pushed outwardly into the hatchway to engage a mechanical selector cam 20 mounted adjacent the floor level, which that button represented. The push-buttons 19 of the Nistle patent, however, could be pressed in any desired order and the car started by the operator within the car manually moving the control rope 12.

While the means in the Nistle patent are mechanical in nature, they included the mechanical equivalents of each of the devices or mechanisms of the Parker patent. There was in the Nistle patent

(a) a device within the car to be operated by the elevator operator to start the car;

(b) push-buttons within the car corresponding to the different floors, which could be operated in any desired order; and

(c) selector cams in the hatchway which cooperated with the push-button to return the car-starting device, the control rope, to the neutral position.

It is to be noted particularly that the patent states:—

"This relieves the operator of the burden of remembering all of the landings as they are ordinarily announced to him and reduces his labor and responsibility to the setting and resetting of the stop mechanism and the re-starting of the car after each stop." [R., Vol. 3, p. 391, lines 111-117.]

It thus appears that some seventeen years before Mr. Parker had his experience in the Tuller Hotel in Detroit, other patentees had conceived of the desirability of relieving the attendant of an elevator car from the necessity of memorizing the floors at which it was desired to stop and

had provided mechanism which could automatically cause the car to stop at the various levels.

The advantage of these car-buttons is indeed pointed out in the patent with great fullness and particularity.–

> "In this manner by the pressing outwardly of any appropriate arm 17 the car may be caused to automatically stop at the desired landing, and it is immaterial how many of the arms are thus actuated at the same time or during a single ascent or descent of the car, since the mechanisms which effect the stopping of the car at the several landings are all independent. For instance, if three passengers desire to stop at the second, fourth, and sixth landings, respectively, all three of the arms 17 corresponding to these landings may be set before starting. The car will automatically stop first at the second landing, after which the mechanism for that landing will be restored to normal position by raising the pawl carrying the numeral '2'. The car will then automatically stop at the fourth landing, * * * after which the car will continue to and automatically stop at the sixth floor." [R., Vol. 3, p. 391, lines 39-62.]

The Nistle patent therefore describes the same functions to be performed in an elevator which are seventeen years later described by Parker. True, the mechanism disclosed by Nistle is related to the type of elevator system in common use at that time. But the fundamental principle of stopping an attendant-controlled elevator by means of push-buttons to be actuated prior to the arrival of the car at the floors is fully disclosed. While plaintiff attempts to distinguish from Nistle in that Nistle's device is mechanical and the Parker patent is electrical, when plaintiff approaches the issue of infringement it abandons any com-

parison of the mechanisms and compares only the functions of defendants' device with the functions of the Parker patent. If mere resemblance in function is a standard of comparison, then Nistle is a complete anticipation of the Parker patent.

—

Crouan Patent (Defendants' Exhibit X-1).

This patent discloses another example of an hydraulic elevator operated by a mechanical apparatus including a car-starting device and separate push-buttons in the car for stopping the car. These push-buttons are shown in Figs 13 and 15 of Crouan and may be operated in any desired order. The elevator car then may be started by the control rope, and when it arrives at the floors corresponding to any of the push-buttons which have been pressed the elevator car will be stopped. The car does not have to make an individual trip in response to each push-button. The mechanism of this car thus will accomplish all of the objects of the Parker patent in so far as car-buttons are concerned. It will relieve the memory of the operator equally as well as will the means shown in the Parker patent.

This patent therefore fully illustrates that the elevator art had full knowledge of the fact that a car started by a starting device could be stopped by push-buttons if desired, and that these push-buttons would relieve the attendant of the necessity of remembering the floors.

Ongley Patent (Defendants' Exhibit X-6).

The Ongley patent relates to an electrical controlling system. It discloses what is known as the three-button system. That is to say, there is within the elevator car one button which may be pressed to stop the car at the next floor level; one button which may be pressed to start the car in the "up" direction; and a third button which may be pressed to start the car in the "down" direction. Likewise, at each landing there is provided one button for starting the car upwardly; one button for starting the car downwardly; and one button to automatically cause the car to stop at that landing. The language of certain of the claims of the Parker patent inserted by reissue is sufficiently broad to include any elevator which has separate devices outside the car and within the car for stopping the car. The Ongley patent clearly discloses an elevator in which there is a push-button within the car for starting the car and push-buttons at the floor landings and in the car for automatically stopping the car. The push-buttons for stopping the car are separate from the buttons to start the car. The stopping buttons of the Ongley patent are in secondary control circuits containing substantially the same elements as the secondary control circuits of the Parker patent.

The mechanism of the Ongley patent is illustrated in Figure 13 of this brief. This figure shows the secondary control circuit to the selector operated by one of the push-buttons 19 of Ongley which are located at the floor landings. Tracing the circuit from right to left, the circuit leads from the battery minus through line 7 to

the push-button 19. From the push-button 19 the current flows through line 18 to a contact M′ which is to be engaged by bridge O on the elevator car when the car arrives at the landing. The bridge connects a contact M′ with the second contact M, and thence the circuit continues throught contact N and a switch R (closed by the valve mechanism when the elevator is moving), through line 16′ and line 4 to the magnet E^9, and thence through line 2 to the positive main. The magnet E^9 is energized by this circuit during engagement of contacts M and M′ by the bridge O until the car arrives at the floor. In this manner the magnet E^9 is energized for a sufficient length of time so as to bring the car to a stop at the landing through the operation of the valve of the hydraulic motor.

Comparing this secondary control circuit with that of the Parker patent (see Figures 3 or 4 of this brief), they will each be found to contain the following elements:

(a) a push-button, such as the car-buttons d^2, b^2, or the hall-buttons l^2, j^2, of Parker, and the push-button 19 of Ongley;

(b) each circuit includes the automatic closing selector gaps, these gaps being the contacts f^2 in Parker and M and M′ in Ongley;

(c) the selector contacts of these circuits in both cases are engaged by a device moving in unison with the car, the brush 34 in Parker, and the bridge O in Ongley, to in each case complete the circuit;

(d) each circuit includes a magnet for stopping the car, that is, the neutralizing magnet 37 of Parker and the magnet E^9 of Ongley;

(e) in each case the floor selector contacts are the means intended to cause the elevator car to be brought to a "level" with the floor.

While it is true that the Ongley patent also discloses additional starting buttons at the floor landings so that a person desiring to use the car may start the car from the landing, this does not detract from the pertinency of this patent as an anticipation. If one does not desire to permit the passengers to start the car as well as to stop the car, all that is necessary to do is to omit these push-buttons or cover them over so that the passengers cannot press the same. It is well settled in patent law that a mere omission of parts and their intended function does not constitute an invention.–

> "While the omission of an element in a combination may constitute invention, if the result of the new combination be the same as before; yet if the omission of an element is attended by a corresponding omission of the function performed by that element, there is no invention, if the elements retained perform the same function as before. This is well illustrated in the case of Stow v. Chicago, 3 Bann. & Ard. 92, decided in the same circuit."
>
> (*Richards v. Chase Elevator Co.,* 159 U. S. 475, 40 L. ed. 225, at 228-9.)

PARKER MADE NO INVENTION.

The record shows conclusively that it was fully known to the electrical engineer prior to the alleged Parker invention that elevator cars could be automatically stopped by push-buttons. There was in use the common apartment-house full-automatic elevator in which these same push-buttons, operating through the same signal circuits, were used for automatically stopping the elevator car. There have been many patents granted, and elevators constructed, in which the elevator was stopped automatically by push-buttons either within the car or without the car, and in which the elevator car was started by a starting switch within the car. The only type of elevator which had not been stopped by push-buttons automatically was the high-speed attendant-controlled elevators most commonly seen in office buildings. But even these elevators had present the push-buttons and selector circuits which could be used to stop the car without any substantial change in electrical means or apparatus. They were not so used, for several reasons, the principal one being that to stop the car automatically would require the cars to be operated at low speed. The art at that time had not developed devices for automatically stopping cars traveling at high speeds.

It was known to every electrical engineer that these signal systems, in use on every ordinary attendant-controlled elevator, could be used to automatically stop the car. This was so well known that it is admitted both by plaintiff's own experts and by the patentee, Parker, himself. Parker testified that he knew no more of elevators than any ordinary person knows from riding in them [R. 96]. Yet it was apparent to Parker that the push-buttons used on attendant-controlled cars could be made

either to light a light in the car or to stop the car, and that no new special mechanism was required. Parker testified:–

> "I was familiar with such a system in which lights were lit in the car before I had the idea on which I later applied for this patent. I knew that a push button would stop a car and I knew that push buttons also lit lights in cars. I had never seen a push button in the car light a light, but push buttons on the floor would light lights in the car." [R. 107.]

No invention can be claimed for Parker in the idea of using push-buttons to automatically stop an elevator equipped with a manual starting switch. Plaintiff's expert Crabbe admitted this was apparent to electrical engineers long prior to Parker's alleged invention [R. 266]. Crabbe could hardly have testified otherwise, because any ordinary electrician would have known that the cars could be stopped by push-buttons and that an appropriate means for stopping the cars was to use the push-buttons that had long been employed both to automatically stop push-button-controlled elevators and to signal office-building elevators. The master says:

> "Selectors had been developed which would complete a circuit to stop the car. These were used in the so-called push-button elevators which the patent to Ihlder illustrates." [*Master's Report*,– R. 563.]

The master's sole basis for finding that there was any invention at all involved in the disclosure of the Parker patent is predicated upon the following statement:–

> "That it was contributed by an outsider negatives any theory that it was an obvious step. Otherwise,

elevator engineers would have accomplished it long before Parker." [*Master's Report*,– R. 574.]

Reasoning of this kind is not sound unless there existed prior to Parker's alleged invention a need for an elevator control of the kind devised by Parker. The record in the present case shows that at the date of the Parker patent automatic stopping of elevators could be carried out only upon elevator cars traveling at low speeds, such as 100 to 150 feet per minute. The master ignores the fact that (even if operative at all) the Parker elevator could only be operated at low speeds. Both the master and Judge James found that there was no utility in the Parker system as applied to elevators traveling at low speeds. Clearly, no one had or did want what Parker described in his patent. Neither plaintiff's elevator nor defendants' elevators were successfully built until *new* means of control for elevators were invented, capable of automatically stopping a high-speed elevator car. If an elevator engineer at the time of the Parker patent had produced the system that Parker had in mind, it could not have found any place in the practical art. This completely negatives the assertion that Parker thought of anything that a skilled elevator engineer could not see.

The record shows that Parker's idea of always compelling an elevator car to stop in response to the wish of a passenger is foolish. Elevator cars intentionally fail to stop and this is necessary to the proper regulation of traffic in office-buildings. When a car becomes loaded to capacity, or when it becomes behind schedule, it must pass waiting passengers who have signaled for it to stop. An

elevator so constructed that it would always be compelled to stop in response to the passenger's pressing of a button could not be operated commercially. Plaintiff's expert Crabbe so testifies:—

> "It would be foolish if the car was full of passengers to compel the car to stop at the remaining floors when it could not take on any more passengers, and it is essential to a practical elevator system, even though it has automatic stopping, that the elevator operator be enabled to pass up the hall signals. Parker does not consider that condition in his patent. He makes no mention of it at least." [R. 236.]

Elevators occupy a very substantial space in office-buildings. The higher the speed that elevators may travel, the less the number of cars required to handle the traffic. The progress of the elevator art has been towards higher and higher speeds for elevator cars operating in office-buildings. When the speed of elevator cars began to exceed 600 feet per minute, the difficulties of the elevator operator judging the speed and load of the car to make a stop at a landing had so increased that it became obvious that it would be preferable to stop the cars automatically. If elevator speeds in the future exceed greatly the present speeds, the need for automatic stopping will be even more imperative. The elevator art has directed its attention in the last few years to devising improved means for controlling the deceleration of the elevator car from high speeds to a stop. These problems did not exist prior to Parker, and the solution of these problems is not taught by Parker. The art at the time of the Parker alleged invention could not practically employ automatic stopping of high-speed office-building elevators.

The testimony shows that when elevator engineers had produced means for decelerating a high-speed office-building elevator automatically, they immediately utilized the obvious means then existing in the art for automatically conditioning the decelerating means to operate at the desired floors. They merely substituted a relay for the old flash signal lamps in the old signal circuits for operating the new automatic slow-down and stopping machines.

As will be pointed out hereinafter, defendants' engineers worked a number of years developing a high-speed elevator car which could be automatically slowed down and stopped. Once this development was attained, it is clear from the testimony of defendants' engineer DeCamp that no invention was present in using the ordinary signal circuits, always present on attendant-controlled cars, to operate the newly developed equipment. DeCamp testified:—

> "After we had the car developed to a point where it could be automatically slowed down and stopped, it was a comparatively simple matter to add a relay to the operator's flash, which would set up the slow-down impulse." [R. 378.]

Parker had nothing to do with this development. He had no knowledge of how to slow down or stop a high-speed elevator car. To adjudge invention in the Parker patent is to impose a tremendous tribute upon the elevator art, which in fact owes nothing to Parker and which has derived nothing of value from him. The future development of such an important art should not be blocked by the denial of the right to the obvious utilization of the old signal circuits and the old push-button control circuits of this art for stopping a manually-started elevator. To do

so is to find invention in an expedient obvious at the time of its suggestion by Parker, and of no practical utility at that time. Every element of the Parker means existed in the prior elevator art. The elevator car, elevator motor, pole-changing switch, push-buttons, car-switch, selector, and the reset coils, all existed in the prior elevator art. All of these elements were used, each to accomplish the same functions, by the same mode of operation, as they are intended to accomplish in the Parker patent. And all of these elements were combined in the same way to produce the same final result intended in the Parker patent. The Parker patent is therefore for a mere assembly of selected elements, each old in the same art, for accomplishing the same individual functions; the assembly of these elements, each contributing its function, achieving a final result also old in the art. It is well settled that a selection of this kind is not invention.

In *Ray v. Bunting Iron Works,* 4 Fed. (2d) 214, this Court said:—

> " 'The result of the application of the common skill and experience of a mechanic, which comes from the habitual and intelligent practice of his calling, to the correction of some slight defect in a machine or combination, or to a new arrangement or grouping of its parts, tending to make it more effective for the accomplishment of the object for which it was designed, not involving a substantial discovery, nor constituting an addition to our knowledge of the art, is not within the protection of the patent laws.' Sloan Filter Co. v. Portland Gold Min. Co., 139 F. 23, 71 C. C. A. 460, and cases there cited.
>
> "Nor is there anything new or novel in the combination aside from mere mechanical changes, or

changes in machine design. Thus we find the same combination of atomizer and fan in the Mack patent, No. 548,647, issued October 29, 1895, and to some extent in the Klein patent, No. 473,759, issued April 26, 1892. The cases are uniform in holding that there is no invention in merely selecting and fitting together the most desirable parts of different machines in the same art, if each operates the same in the new machine as it did in the old and effects the same result.

" 'It is said that appellee's carrier is not anticipated by any single patent; but it is not necessary to show complete anticipation in a single patent. The selection and putting together of the most desirable parts of different machines in the same or kindred art, making a new machine, but in which each part operates in the same way as it operated before and effects the same result, cannot be invention; such combinations are in the nature of things the evolutions of the mechanic's aptitude rather than the creations of the inventor's faculty.' Huebner-Toledo Breweries Co. v. Mathews Gravity Carrier Co., 253 F. 435, 447, 165 C. C. A. 177, 189."

See further:

Keene v. New Idea Spreader Co., 231 Fed. 701, 709, (C. C. A. 6th Cir.);

Duer v. Corbin Cabinet Lock Co., 149 U. S. 216, 223, 37 L. ed. 707, 710;

Sloan Filter Co. v. Portland Gold Mining Co., 139 Fed. 23 (C. C. A. 8th Cir.);

Greist Mfg. Co. v. Parsons, 125 Fed. 116, (C. C. A. 7th Cir.).

That each of the elements of the Parker patent, as well as its function, was old in the art will be apparent from the following:–

(1) That there is nothing novel in the pole-changing switch of the Parker patent or in the motor circuit (Figure 2 of this brief) or in the use of a car-switch closing a primary circuit to the pole-changing switch, is admitted within the Parker patent itself. The patent states (p. 1, lines 49-53):–

> "No fundamental change is contemplated in the driving or starting mechanism of the system, but only in the master control switch situated within the car itself."

(2) The use of a holding and releasing magnet for the primary circuit was old in the electrically controlled circuits of Strohm and of Ihlder. Strohm employed the holding and releasing magnet f. Ihlder employed the holding and releasing magnet D. In addition, the idea of latching the car-switch itself (an entirely useless conception, as found by the Master) and unlatching the same automatically, was the first and oldest method of automatically stopping the car, as is abundantly illustrated in the patents to Crouan and Nistle.

(3) A "Secondary Control Circuit," which included (a) a manually operable switch or push-button; (b) an automatically operated switch or selector contact, and (c) a magnet to be used in stopping the car, was old and in common use in every attendant-controlled elevator, as shown in the Smalley & Reiners patent; was present in the full-automatic elevator as illustrated by the Ihlder patent, and was old in the Strohm and Ongley patents. The stopping of an elevator car by placing the selector

contacts at such position relative to the floor that the elevator car could be stopped by these contacts opening the car-switch circuit and the motor circuit so that the mechanical brake could be applied, was old in Ihlder and Strohm.

(4) The use of push-buttons at floor landings to automatically stop an elevator car was old in Ihlder, Strohm and Ongley, and both Strohm and Ongley had push-buttons at the landings, for stopping the car, which were in separate circuits from the starting switch within the car.

(5) The use of push-buttons within the car for stopping the car automatically was old in Ihlder, Crouan, Nistle, Ongley and Worthen. Nistle in particular in his patent dwelt upon relieving the "memory" of the operator. It is further disclosed in the Worthen patent 1,219,061, of March 13, 1917 (Def'ts Exhibit X-15). This patent provides a single electrical switch in the car for each floor. The starting of the car is controlled entirely from within the car by the operator. As the passengers entered the car at the street-level and announced their floors, the operator could actuate the switches for each floor at random as given by the passengers, and the car would automatically stop in the natural order of the floors. [Doble,—R. 445-448.]

Judge James found:—

> "On the record presented, to which I have given careful and painstaking study, I am totally unable to agree with the master; my conclusion, to the contrary, is that when Parker conceived his invention,

the art of elevator control by electrical means, if not already crowded, was certainly well occupied. Considering his elements separately, there was nothing at the time new in the use of push buttons at the floors or in the car which would operate through electrical magnets to connect and disconnect the current feeding the hoisting motor; there was nothing new in a selector means moving synchronously with the elevator car to make and break auxiliary circuits; there was nothing new in a circuit arrangement by which push buttons would be reset after being operated through coil wound magnets. At the time Parker conceived his invention, the type of electrically controlled elevators, such as is common in apartment houses and some business buildings, whereby, by means of push buttons at floor landings and in the car, the elevator can be started and will be stopped automatically, was in common use." [R. 638.]

"It would only serve to prolong this opinion to unnecessary length were I to discuss and analyze the several prior art patents which were introduced in evidence, all referring to systems for the starting and stopping of elevator cars by electrical means, including the use of push buttons at the floors and in the car. All of these are illustrated in the exhibits and in the printed brief filed by the defendants. As to the form and mode of operation of the devices represented, there is no dispute. They are all cumulative evidence to the point that at the time Parker conceived his invention the art in which he was working

> was highly developed. Hence, it must be determined that this patentee, insofar as his system exhibits invention, is limited closely to the form and structure described, and that the range of equivalents allowed to him is restricted narrowly to those which substantially embody the things that he describes and specifies." [R. 639.]

It is apparent from the prior art that Parker contributed nothing new in elevator control. He added nothing which would benefit the elevator engineer in any particular. His patent describes only one thing that was not admittedly old, and that is the particular and specific design of the car-switch and its particular and specific arrangement relative to the two holding and releasing magnets 32, 37 and 32′-37′, which nobody uses.

Plaintiff's only claim for the Parker patent is that Parker utilized the old signal system, including the old push-buttons and the old selector, for stopping an attendant-controlled car automatically by automatic release of the pole-changing switch in place of the manual operation by the elevator operator. The mechanism for accomplishing this was merely the usual appliances in the art, if one disregards the particular and specific form of car-switch of the Parker patent. If the Parker patent is construed to cover any use of these old means and appliances, (*i. e.*, old signal circuits,) to stop the car automatically in place of having the elevator operator manually stop the car after the operation of the signal circuit, it is well settled that the Parker patent cannot be sustained as for an invention. No new means or appliances

are thus included. The mere change from hand operation to automatic operation does not constitute patentable invention, where there is no substantial change in the means or appliances required. The case of *General Electric Co. v. Eisler,* 20 Fed. (2d) 33, 36 (C. C. A. 3rd Cir.) illustrates this rule, the court saying:–

> "We are here dealing with a glass-blowing machine, an art where the turntable and machine-blown glass articles were common products. Because of these facts the language used by the Supreme Court in Thropp's Sons Co. v. Seiberling, 264 U. S. 320 at page 328, 44 S. Ct. 346, 349, (68 L. Ed. 708), is even more strongly here applicable, viz.:
>
> " 'The change from hand to the use of machinery often involves invention. In the making of tires, it has in fact resulted, because of the use of power, in speed of manufacture, and possibly in some greater uniformity of the product. But the record does not show that there has been substantial change in the mechanics or method of making. The steps are the same, and the succession from one to the other are as in the manual art, and the transfer from hand to power was by the usual appliances, and had all been indicated before the state patent.' "

DEFENDANTS' ELEVATORS.

History of Development.

The alleged infringing elevators are a bank of four cars built by the defendant Llewellyn Iron Works and installed in the building of defendant Pacific Finance Corporation in Los Angeles. The work on the development of these elevators started in 1921. [R. 371.] Plaintiff, in developing its Signal Control elevators, devised a means by which the elevator car could be automatically slowed down level with the landing by varying the distance through which the elevator car was slowed down in accordance with the speed and the load in the car. The Llewellyn Iron Works approached the problem in an entirely different way. It devised a means by which the elevator car would be driven always at the same speed in the elevator shaft independent of the load. To do this it made certain discoveries in what is known as the Ward-Leonard drive. The Ward-Leonard drive for elevators is shown in the Ward-Leonard Patent No. 468,100 [Defendants' Exhibit X-7]. Briefly considered, a Ward-Leonard drive for an elevator differs from the ordinary electric drive in the following particulars:

In ordinary electric elevators the control of the elevator motor is accomplished by a direction or pole changing switch which applies the electric current to the armature of the motor in one direction to move the car upward and in another direction to move the car downward and cuts off the power to stop the car. In the Ward-Leonard system the elevator motor is permanently connected with a generator, and the armature circuit from the generator to the motor is not broken in the operation of the elevator

except as a safety factor after the car has come to a stop. Direction switches are employed to regulate the flow of current to the field of the generator. The Ward-Leonard system, as it existed prior to the discoveries made by the Llewellyn Iron Works, would drive an elevator car at widely varying speeds, depending on the load in the car, and it was used only to a limited extent; for example, in mine hoists and steel mills. [R. 508-9.] The experiments conducted in 1921 by the Llewellyn Iron Works led to the addition of a series field winding to the Ward-Leonard system by means of which an elevator car could be caused to travel at constant speed with varying loads in the car.–

> "As to whether that testimony was intended to convey the impression that that 1921 work was embodied in the Pacific Finance installation in any way, I would say just in this respect, that on account of using the series field Ward-Leonard generator we were getting at that time as nearly constant speed on the motor as we could with various loads in the car. That was the real disclosure that we found out at that particular time." [R. 394.]

The next step in the development of defendants' elevators was the designing of a new machine for automatically stopping a Ward-Leonard driven elevator. This work commenced in 1924. [R. 371.] This machine operates by inserting in the generator field a series of resistances to bring the car to predetermined decelerated speeds in a step-by-step fashion to slow down the car automatically. [R. 371.] During the operation of the slow-down mechanism, the running circuits and the motor cir-

cuits are not opened. This mode of operation is the opposite of that described in the Parker patent. It enables a high-speed elevator car to be automatically stopped accurately level with the floor landing through the insertion of steps of speed-diminishing resistance in the generator field.–

> "The purpose of this experiment was to automatically slow-down and stop a high-speed elevator car, that is, a car running say 600 feet per minute, in steps of diminishing resistance to bring the car to a level with the landing." [R. 374.]

This automatic slow-down and stopping machine is dependent for its operation on the improvements previously discovered in the Ward-Leonard system, including the use of the new series field.–

> "The slow-down and stopping mechanism employed in our type of installation in the Pacific Finance Building would not function properly without the series field." [R. 506.]

The development of this series field and its purpose are described in the testimony as follows:–

> "Explaining what the series field means and how it accomplishes that particular purpose, I would say without the series field on the generator a Ward-Leonard system would not result in a constant speed at all on the creeping speeds. The fact is, with full speed on the elevator, the elevator might not even move, but adding the series field on the generator, this series field being arranged so that the current from the armature of the generator passes through the series field, and which same current also passes

> through the armature of the elevator driving motor, results in an automatic strengthening of the field as the load is increased on the elevator driving motor; that is, if the load on the driving motor is heavy the current through the series field must be correspondingly heavy, and the heavy current through this series field results in strengthening the magnetism of the generator and assists in building up a higher voltage than otherwise would be obtained, and this higher voltage tends to keep the speed of the elevator car practically constant. It is an automatic device that depends upon the current which is drawn by the elevator motor to compensate for loads which are placed on the elevator car." [R. 506.]

The first experiments with the automatic slow down and stopping machine were conducted by the Llewellyn Iron Works in the Pershing Square Building in Los Angeles. In April, 1925, this work was transferred to the Petroleum Securities (Pan-Gas) Building. The automatic slow down and stopping machine was installed there for use with the No. 4 car in the bank of elevators. Push-buttons were provided in that car and the automatic slow down and stopping machine was connected to the same hall signal system that was used for the other cars.—

> "The traffic became too heavy in the Pershing Square Building to do any further experimental work, so early in 1925 the equipment was all moved to the Petroleum Securities Building, on elevator No. 4, where the same equipment was tried out in connection with a different size of motor, and the same results were secured." [R. 372.]

The drawings for this installation are dated April, 1925, and are in evidence as Defendants Exhibits S-1 to S-4

[R. 376.] The installation was completed and the car turned over for regular passenger service as early as August 4, 1925.–

> "I fix the date as to when the No. 4 car in the Petroleum Securities Building was turned over for regular passenger use, equipped with automatic stopping, by the completion of the test which I made on that particular car.
>
> "I believe I have the test sheets here.
>
> "Witness produced them.
>
> "These are the complete test sheets and reports which are dated August 4, 1925, signed by myself, the report being made by myself at that particular time. It refers to the Pan American No. 4 car.
>
> "That is the same car sometimes referred to as the Pan Gas Building and the Petroleum Securities Building." [R. 378-9.]

This elevator was still in use at the time of the trial of this case. It was examined by the special master. There was no difference between this car No. 4 and the other cars in the same bank, except the addition of the automatic slow down and stopping machine which was operated by an additional contact added to one of the relays of the signal system.

The equipment embodied in the No. 4 car in the Petroleum Securities Building was identical with that subsequently employed in the alleged infringing elevators installed in the Pacific Finance Building. The only difference is that the signal system employed in the Petroleum Securities Building was purchased from the Elevator Supplies Company, whereas the signal system employed in the Pacific Finance Building was purchased from the Randall Control & Hydrometric Corporation.–

> "Comparing the installation just referred to to the Pacific Finance equipment, the installation at the Petroleum Securities Building is substantially the same as that installed later at the Pacific Finance Building, with the exception of the signal system, which in that building is an Elevator Supplies signal system, and in the Pacific Finance Building is a Randall system." [R. 372.]

Following the completion of the No. 4 elevator in the Pan-Gas Building, defendants contracted to install this type of control in the bank of four elevators for the new Pacific Finance Building. In October, 1925, the work of installing the Pacific Finance Building elevators was commenced [R. 278] and the first car was actually complete and turned over for passenger service on March 4, 1926. [R. 278.] The particular elevators which are charged to infringe the Parker re-issue patent had been constructed and were being installed before plaintiff purchased the original Parker patent. One of these elevators was in actual operation some nineteen days before the Parker re-issue patent was granted on March 23, 1926.

The history of the development of defendants' elevators clearly demonstrates that defendants' system is not indebted in any way to any invention conceived by Parker; that, on the contrary, it was an independent development along entirely different lines and principles. The great advance over the prior art embodied in defendants' elevators is in the development of the Ward-Leonard control and of the automatic slow down and stopping machine. No invention was involved in the use of push-buttons to control these. Once the discoveries had been made of the Ward-Leonard control and the auto-

matic slow down and stopping machine had been developed, any elevator engineer knew, from common experience with automatic elevators of the apartment-house type, that push-buttons could be used to control the operation of this mechanism either from within the car or from the floor landings.

Plaintiff in its brief states that its Signal Control elevators were described in the Scientific American of October, 1925, and that defendants' chief engineer Baruch had seen the same in New York City and that he described them to DeCamp in 1925, "before the latter designed the defendants' installation." (Pl'ffs. Br., p. 37.) We have already referred to the record proof that defendants commenced the design of their automatic-stopping elevators early in 1924. Plaintiff refers to DeCamp's statement as to when Baruch instructed him to design the Pacific Finance elevators. But by this time identically the same elevator had been installed by defendants in the Petroleum Securities Building. There is no basis for the assertion that Baruch ever saw one of plaintiff's "Signal Control" elevators before the design of the elevator for the Petroleum Securities Building.

Judge James said:—

> "Wonderful ingenuity is displayed in the highly complicated slow-down and floor selector machines used by the defendants." [R. 643.]

Plaintiff in its brief says:—

> "whereas there was little new in any of these mechanisms over that of previous Otis elevator practice." (p. 43.)

This statement of plaintiff is absolutely contrary to the record. Plaintiff cites no record reference in its support of the statement. Plaintiff's Signal Control elevators employ a totally different driving and slow-down means. It used a system called "Multi-Voltage" and not a Ward-Leonard Control. [R. 208.]

Description of Defendants' Elevators.

> "An understanding of the complicated apparatus used in the defendants' installation requires concentrated effort of many hours duration and involves the examination of a multitude of schedules and drawings. It is impossible to follow in detail a description of defendants' elevator system without resort to the drawings and schedules,—hence a closely particularized description cannot be set forth in any opinion unless the formal data referred to is made a part of it.
>
> "The witness DeCamp, an expert engineer, employed by the defendant, Llewellyn Iron Works, furnished the testimony from which the master made his conclusions with respect to the form and mode of operation of the alleged infringing installation."
>
> [*Judge James,*– R. 634.]

The elevators in the Pacific Finance Building consist of four cars operated in a bank with an approximate running speed of 600 feet per minute. The cars are driven by motors located in the pent-house above the elevator shafts. One of these motors is shown in the photograph, Exhibit I-1 [R., Vol. 3, p. 179], and is described at R., Vol. 1, pp. 285-6.

There is a separate automatic slow down and stopping machine for each car. These are suspended from the

penthouse ceiling. One of these automatic slow down and stopping machines is shown in the photograph, Exhibit I-2 [R., Vol. 3, p. 180], and is described at R., pp. 286-90.

This machine has a rope drum 1, which carries a wire rope attached to the elevator car so that the machine is moved in exact synchronism with the movement of the elevator car. A primary slow down drum 2 is geared to the rope drum so that the rotation of the rope drum produces a corresponding rotation of the primary slow down drum. A secondary slow down drum 3 is mounted to rotate with the primary slow down drum and rope drum. A leveling drum 4 is connected directly to and constitutes a part of the rope drum 1.

Cams 3C are carried by the secondary slow down drum to operate a plurality of switches 3O and 3E, there being six 3O switches and a corresponding number of 3E switches arranged radially around the drum. The secondary slow down drum 3 is divided into two parts, providing one set of cams and switches for the odd floors (those bearing odd numbers) and another set of cams and switches for the even floors (those bearing even numbers). The rotation of the secondary slow down drum causes the cams 3C to actuate the switches 3O and 3E to intiate steps of deceleration to bring the car to the floors at a comparatively slow speed.

A number of cams 4C are carried by the leveling drum 4 to operate leveling switches 4MS. The circuits from the 4MS leveling switches control the motion of the car after it has been slowed down through the operation of the secondary slow down drum and cause the car to stop level with the floor.

A plurality of cams, one for each floor, are provided on the primary slow down drum 2 to operate a number of switches 2U and 2D. The cams for the first and thirteenth floor appear in the photograph and are numbered accordingly. The primary slow down drum is used to transmit signals from a Randall signal machine to the secondary slow down drum and to operate as a floor selector in response to the car push-buttons

A Randall signal selector for each car is located in the pent-house. This is a well-known type of floor selector in which a carriage is driven from the elevator car to close contacts corresponding to the different floors. The photograph, Exhibit I-3, shows a plan view of this selector. [R., Vol. 3, p. 181.] Photograph Exhibit I-4, shows a side-view of the same machine [R., Vol. 3, p. 182]. The machine is described in detail at R., Vol. 1, pp. 291-2. The circuits from the push-buttons at the floor landings lead to all four of these Randall machines. The Randall machine for the first car to approach the floor at which a push-button has been pressed completes a circuit to the primary slow down drum of the automatic slow down and stopping machine for that car and resets the push-button so that no subsequent car will stop at that floor on that signal.

The circuits from the push-buttons at the floor landings to the Randall signal machines are controlled by a series of relays mounted on a panel in the pent-house. This panel is called the Hall Signal Panel and is illustrated in the photograph, Exhibit I-5 [R., Vol. 3, p. 183]. A relay is a switch which is operated by the flow of current through a coil to open or close one or more contacts. Physical

Exhibit "J" is a specimen of one of the relays used on the hall signal panel in defendants' elevators [R. 293]. The contacts on these relays may be normally closed, to be opened by the flow of current through the coil; or may be normally open, to be closed by the flow of current through the coil. The relays on the hall signal panel are numbered 1 to 67 on the photograph, Exhibit I-5. The functions of the individual relays are explained at R., pp 293-6.

The circuits from the car-switch and car-buttons to the driving mechanism and the automatic slow down and stopping machine are controlled by a number of relays mounted on a main control panel in the pent-house. There is a separate main control panel for each car. One of these main control panels is shown in the photograph, Exhibit I-6. Physical Exhibit "K" is a specimen of one of the relays used on this panel [R. 303]. The relays on the main control panel are numbered 1 to 51 on the photograph, Exhibit I-6. The functions of the different relays are described at R., pp. 298-306.

A Ward-Leonard generator set is mounted in the pent-house for driving each elevator motor. One of these Ward-Leonard generator sets is shown in the photograph, Exhibit I-7 [R., Vol. 3, p. 185], and is described at R., p. 296. As pictured in the photograph, there are three electrical structures mounted on a common shaft. The center structure is an electric motor which rotates the armature of the generator. The generator is shown in the forepart of the photograph, and the third electrical structure (at the rear) is an exciter which is used to produce the controlling current for the generator field and various other parts of the apparatus.

Each elevator car is provided with a car-panel positioned in front of the car operator. The exterior of one of these panels is shown in the photograph, Exhibit I-8 [R., Vol. 3, p. 186]. The interior is shown in the photograph, Exhibit I-9 [R., Vol. 3, p. 187]. The car panel is provided with a car-switch having a latch 5C to be manipulated by the operator to initiate the starting of the car. A set of push-buttons 12CS are provided, one for each floor (except the basement and the top floor). We need not refer to the other switches and levers appearing on the car panel, which serve various auxiliary purposes. The construction of the car panel and its mechanism is fully described at R., pp. 307-10.

The circuits employed in the defendants' elevators are shown in the drawings, Defendants' Exhibits N, and O1 to O4, and P-1 and P-2. The mode of operation of the elevators cannot be followed unless these circuits are understood. A given circuit functions to energize a relay to cause a contact of that relay to open or close the next circuit. The only practical way of studying the system is to trace the operation from circuit to circuit. We have attempted to simplify the understanding of defendants' system by the diagrams appended to this brief. These diagrams are intended to illustrate the circuits separately, to avoid the difficulty of using a drawing in which the particular circuit to be studied is entangled with a maze of other circuits. The diagrams appended to this brief are correct reproductions from the exhibits, employing the identical symbols appearing thereon. Where the coil of a relay is included in the circuit, the number of the relay appears over the zig-zag line representing the coil in the diagram. The number of the relay is accompanied by

symbols showing the number of contacts actuated by that relay. If the contact is normally open, the symbol for the contact appears above the coil in the circuit diagram. If the contact is normally closed, the symbol for the contact appears below the coil in the circuit diagram. For example, if the coil for relay 46 appeared in a circuit diagram, above this coil will be the number "46" within a circle. Relay 46 has contacts UO1, UO2 and UOA UO1 and UO2 are normally open contacts. A normally open contact is a contact that is closed by the flow of current through the coil of the relay. The symbols UO1 and UO2 would appear above the coil in the diagram. Contact UOA is normally closed, to be opened by the flow of current through the coil of the relay. The symbol for contact UOA would appear below the coil in the circuit diagram. The contact actuated by a relay would appear in a different circuit from the circuit that included the coil of the relay. Where the contact, and not the coil, appears in any circuit diagram, only the symbol for the contact appears.

Running Circuits (Figure 14 of this brief).–

The circuits utilized for starting the car and subsequently continuing the movement of the car are shown in Figure 14 of this brief. These circuits are identical with the same circuits which appear on Exhibit O-3 and O-4. They are described in the record at pp. 324-36. To start the car upwardly, the car-attendant moves the car-switch to close the "up" contacts. This closes the first or upper circuit on Figure 14, which may be traced from the main LL1, through line DU, through the car-switch, line 1U, through the coil of relay 46 having contacts UO1-UO2-UOA, through coil of relay 45, through certain auxiliary

devices which are omitted, through line O1, to the main LL2. The passing of the current through the coil of relay 46 closes contacts UO1 and UO2 and opens contact UOA.

The closing of contact UO1 closes the second circuit on Figure 14, which may be traced from the main LL1, through the normally closed contact LVA of relay 44, through contact UO1 which is now closed, through a limit switch, to the coil of relay 27 having contacts 1-3-3A, through the coil of relay 49 having contacts UT1-UT2-UTA, through the coil of relay 29 having contacts 1B-2B-2BA, through certain omitted auxiliary devices, to the negative main LL2. The function of this second circuit is to operate relays 27, 49 and 29. Relay 29 operates to close certain circuits to withdraw the brake-shoes from the elevator motor. The brake is of the usual mechanical type including springs which apply the brake-shoes to the electric magnet, which when energized withdraws the brake-shoes from the elevator motor. The brake is always applied in defendants' system except when electric current is applied to relay 29.

One effect of relay 49 is to close the contact UT1, which it will be observed forms a shunt in the first circuit on Figure 14 of this brief, setting up a holding circuit around the car-switch. This permits the car-switch to be returned to the "off" position without stopping the car. This is accomplished without the necessity of maintaining the car-switch contacts closed, and requires no special construction of car-switch. A push-button could be substituted for the car-switch with equal effect.

The passage of current through the coil of relay 27 closes contacts 1 and 3 and opens contact 3A. Closing

contacts 1 and 3 closes the generator field circuit (shown in Figure 15). Contacts SD1, LV and 4MS in the third or lowermost circuit on Figure 14, which includes "Cam on Leveling Drum", are at this time open. The operation of this circuit will be described later.

Generator Field Accelerating Circuit (Figure 15 of this brief).–

The circuit illustrated in this Figure is a reproduction of a circuit appearing in Exhibits N and O-3 and is described in the record, at pp. 331-336. The circuit is traced as follows: Starting with main LL1, through a set of accelerating resistances, through normally closed contacts STA and SDA, through governor-regulated resistance controlled by a contact GFX, through contact 1 of relay 27, through normally closed contact LFA, through generator shunt field, through normally closed contact LFB, through normally closed contact 53, through contact 3 of relay 27, through a limit switch, to the main LL2. This circuit energizes the generator shunt field in the direction to pass current through the motor circuit (Figure 16) to move the car upwardly.

Motor Circuit (Figure 16 of this brief).–

The circuit shown in this Figure appears on Exhibits N and O-3 and is described in the record at p. 327. The circuit may be traced from the generator through line A1 to the motor, through line A3, through contact M of relay 48, through line A2, through the series field of the generator, and back to the generator. Relay 48 is energized by a contact of relay 45. Relay 45 appears in the first circuit on Figure 14.

The circuit shown on this Figure 16 is a loop circuit, and whenever current is supplied to the shunt field of the generator (as shown in Figure 15) the generator sends current through this loop circuit to the motor.

Car-Button Selector Circuit (Figure 17 of this brief).–

This Figure shows the circuit set up by pressing a car-button; for example, the button for the seventh floor. The same circuit appears in Exhibit O-2 and is described in the record, at pp. 337-43. The circuit is traced on Figure 17 from the X main through a car non-stop button, through line C1 to #7 car-button, through line C7 to the seventh floor 2U switch on the primary slow down drum. This switch remains open until the car reaches about twelve feet from the floor landing. The switch is then closed by the corresponding cam on the primary slow down drum. This completes the circuit through line YOU to the coil of relay #5 having contact HO, through contact UO2 of relay #46, through normally closed contacts EA and OA to the Y main. There are two sets of 2U switches on the primary slow down drum. These appear on Exhibit O-2. One of these sets of switches 3O is for odd-numbered floors and connect with the line YOU which leads through relay #5 having contact HO; the other set, 3E, is for even-numbered floors and connect with the line YEU leading to relay #4 having contact HE. Both relays #4 and #5 have two coils, one for operating in the up direction and one for operating in the down direction. Relay #5 connects circuits to the 3O set of switches on the secondary slow down drum, and relay #4 connects circuits to the 3E set of switches. This odd and even arrangement is

necessary to avoid the cams for adjacent floors on the secondary slow down drum interfering one with the other because the distance through which the car is slowed down is greater than the distance between the adjacent floors.

When the first circuit appearing in Figure 17 is completed by the car closing the seventh floor 2U switch, the flow of current through the coil of relay #5 closes the HO contact appearing in the second circuit on this Figure. The latter circuit is traced from the X main through contact RCA, through the coil of relay #2 having contacts O1-O2-O3-OA, through contact HO to the Y main. The passing of current through the coil of relay #2 closes contacts O1-O2-O3 and opens contact OA. The closing of the O1 contact completes a self-holding circuit for the relay #2 as shown in the second circuit on Figure 17. The closing of contact O2 completes a circuit shown on Figure 18 of this brief. The closing of contact O3 completes the circuits shown on Figure 19 of this brief. The opening of contact OA interrupts the first circuit shown in Figure 17. That circuit thereupon ceases to exist and therefore performs no function during the time the car is being slowed down and stopped.

Slow Down and Stopping Machine Relay Circuits (Figure 18 of this brief).–

The circuit completed by the closing of contact O2 of relay #2 is the first circuit illustrated in this Figure. This circuit will be found on Exhibit O-3 and is described in the record, at p. 340. This circuit has two branches, one employed for energizing the coil of relay #31 and the other employed for energizing the coil of relay #21. The first branch is traced from the LL1 main through

contact MR, through the O2 contact which has now been closed by the second circuit on Figure 17, through the coil of relay #31 having contacts SD1-SD2-SDA, through a resistance controlled by contact 2A1, to the main LL2. The second branch is from the main LL1 through contact MR, through contact O2, through the coil of relay #21 having contact STA, through the coil of relay #20, to the main LL2. The passing of current through relay #31 opens contact SDA in the circuit described in Figure 20 of this brief to permit the insertion of the decelerating resistances in the generator field circuit which slow the car down to the speed at which it may be controlled from the leveling drum. The passing of current through the coil of relay #21 opens contact STA (also in the circuit shown in Figure 20 of this brief) to insert the first small amount of this decelerating resistance in the generator field circuit. Contacts SD1 and SD2 of relay #31 are closed in the circuit appearing at the bottom of Figure 18. This and the remaining circuits appearing on Figure 18 will be described later.

Slow Down and Stopping Machine Cam Circuits (Figure 19 of this brief).–

The circuit completed by the closing of contact O3 of relay #2 closes the three parallel circuits shown on Figure 19 of this brief. These circuits are reproduced from Exhibit O-4 and are described in the record, at pp. 341-9. They may be traced as follows: *1st,* the circuit from the Y main through contact O3 to the coil of relay #12 having contacts 4O1-4O2 to the cam-operated switch OD4 on the secondary slow down drum, through contact UT2 to the X main. *2nd,* the circuit from the Y main through contact O3, through relay #13 having contacts 3O1-3O2,

to the cam-operated switch OD3 on the secondary slow down drum, through the contact UT2 to the X main. And, *3rd*, from the Y main through contact O3, through the coil of relay #14 having contacts 2O1-2O2 to cam-operated switch OD2 on the secondary slow down drum, to the X main. The cam-operated switches on the secondary slow down drum OD2-OD3-OD4 are the 3-O switches shown in the photograph, Exhibit I-2. These switches have all been closed by the cams on the secondary slow down drum at the time contact O3 is closed to complete the circuits shown in Figure 19.

The passing of current through relays #12, #13 and #14 closes contacts 4O2-3O2-2O2 in the circuits shown on Figure 18. These circuits are traced as follows: *1st*, from X main through contact 402, through the coil of relay #9 having contacts 4A1 and 4A2, to the Y main. *2nd,* from the X main through contact 3O2 to the coil of relay #10 having contacts 3A1-3A2-3A3, to the Y main. *3rd,* from the X main through contact 2O2 to the coil of relay #11 having contacts 2A1-2A2-2A2 to the Y main. The passing of current through the coils of relays #9, #10 and #11 in the circuits shown on Figure 18 closes contacts 4A1-3A1-2A1. The passing of current through the coils of relays #12, #13 and #14 in the circuits shown on Figure 19 closes the contacts 4O1-3O1-2O1. Contacts 4A1-3A1-2A1 and 4O1-3O1-2O1 are in the generator field decelerating circuit shown in Figure 20 of this brief.

Generator Field Decelerating Circuit (Figure 20 of this brief).–

The circuit described in this Figure is the circuit employed in the generator field during the slow down opera-

tion. It appears on Exhibits N and O-3 and is described in the record, at pp. 343-7. This circuit is formed from the generator field circuit (Figure 15 of this brief) by opening of contacts STA and SDA and the simultaneous closing of contacts 4O1-3O1-2O1 and 4A1-3A1-2A1. The circuit is then traced as follows: From the LL1 main through auxiliary devices now inoperative (represented by the blank in the circuit), through the first step of decelerating resistance, through contact 4O1, through contact 3O1, through contact 2O1, through the resistances controlled by contact GFX, through contact #1, through contact LFA to the generator shunt field, then through contact LFB, through contact #3, through the limit switch to the main LL2. Contacts 4O1, 301 and 2O1 were closed when current was passed through the coils of relays #12, #13 and #14 by the circuits shown in Figure 19 of this brief. At that time the car was approximately twelve feet from the seventh floor landing. The continued movement of the car to within approximately nine feet of the floor causes the switch OD4 to pass off the cam on the secondary slow down drum, thereby opening the switch and interrupting the flow of current through the coil of relay #12. This permits contact 4O1 to open in the circuit shown in Figure 20, thereby inserting in the generator field the portion of the resistance up to contact 4A1. The interruption of the flow of current through the coil of relay #12 also opens contact 4O2 to open the circuit to the coil of relay #9 (shown in Figure 18), thereby opening contact 4A1 in the generator field circuit shown in Figure 20. Contact 4A1 is a slow-acting contact and inserts the remaining decelerating resistance up to contact 3O1 when the car is about seven-and-a-half

feet from the seventh floor landing. Continued movement of the car to approximately six feet from the seventh floor causes switch OD3 (shown on Figure 19) to leave the cam on the secondary slow down drum, opening the switch and interrupting the flow of current through the coil of relay #13. This opens contact 3O1 in the generator field circuit shown on Figure 20 and inserts the next portion of the decelerating resistance up to contact 3A1. The interruption of the flow of current through relay #13 also opens contact 3O2 in the circuit shown on Figure 18, interrupting the flow of current through the coil of relay #10. This opens the contact 3A1 in the generator field circuit shown in Figure 20. Contact 3A1 is another slow-acting relay and inserts in the generator field circuit the additional portion of resistance up to contact 201 at the time the car is approximately four-and-a-half feet from the seventh floor landing. When the car has reached approximately three feet from the seventh floor landing, switch OD2 (shown in Figure 19) passes off the cam on the secondary slow down drum, opening the switch and interrupting the flow of current through the coil of relay #14. This opens contact 2O1 in the generator field circuit shown in Figure 20 and inserts a further portion of the decelerating resistance up to contact 2A1. The interruption of the flow of current through the coil of relay #14 also opens contact 2O2 in the circuit shown in Figure 18 and interrupts the flow of current through the coil of relay #11. This opens contact 2A1 in the generator field circuit shown in Figure 20. Contact 2A1 is a third slow-acting contact and opens to insert the rest of the decelerating resistance at the time the car arrives about a foot-and-a-half from the seventh floor landing. At this point

the speed of the car has been reduced from approximately six hundred feet to fifty feet per minute. The car has been slowed down step-by-step as the seven different portions of decelerating resistance have been progressively inserted in the generator field circuit as just described.

The last two steps in slowing down the elevator car to bring it to a stop at the landing are accomplished by the opening of the 4MS cam-operated switches on the leveling drum. The leveling drum shown in the photograph, Exhibit I-2, has two cam-operated switches 4MS, one on the bar 4MX and one on the bar 4MY. By the time the car has been decelerated to a speed of 50 feet per minute, the two switches 4MS have been brought into contact with the drum and closed by the 7th floor cam on the drum.

The cam-operated switch on bar 4MY reaches the end of the cam when the elevator car is from 8 to 12 inches from the 7th floor landing [R. 346]. This opens a circuit (not shown in the drawings of this brief) which has been energizing relay #23. This relay #23 when deenergized closes a circuit (not shown in the drawings of this brief), to relays #32 and #33 having contacts LF1-LFA and LF4-LFB, respectively. These two circuits appear on Exhibit O-4 and are described in the record, pp. 346-7. The energizing of relays #32 and #33 opens contacts LFA and LFB and simultaneously closes contacts LF1 and LF4 in the generator field decelerating circuit (Figure 20 of this brief). The simultaneous opening of contacts LFA and LFB and closing of contacts LF1 and LF4 substitutes the Damping Field for the Generator Shunt Field. The damping field is a

low-resistance few-turn field for slow-speed operation. The substitution of this damping field for the generator shunt field further reduces the speed of the car to 25 feet per minute [R. 347]. This is the final step of decelerating the car by the generator field.

The deenergizing of relays #10 and #11 (shown in Figure 18 of this brief) during the decelerating operation has energized the bottom circuit on Figure 18. When relay #10 is deenergized it closes its contact 3A3 in this circuit. When relay #11 is deenergized it closes its contact 2A2. This establishes the circuit which may be traced as follows: From the X main through contact SD1, through coil of relay #44 having contacts LV-LVA, through contact 2A2, through contact 3A3, through contact CR2, through contact SD2 to the Y main. This circuit energizes the coil of relay #44 which closes its contact LV and simultaneously opens its contact LVA. These contacts are in the running circuits (Figure 14 of this brief). The opening of contact LVA opens the circuit appearing on Figure 14 of this brief through the UO1 contact to relays #27, #49 and #29. The closing of contact LV establishes simultaneously a branch circuit to said relays #27, #49 and #29. This circuit may be traced on Figure 14 of this brief as follows: From main LL1 through contact SD1, through contact LV, through the cam-operated switch 4MS on the leveling drum, through relays #27, #49 and #29, to the main LL2. Contact SD1 was closed by energizing the relay #31 appearing in the top circuit on Figure 18.

The elevator car proceeds until it arrives about ¾ths of of an inch from the 7th floor landing. The cam-operated

switch 4MS on bar 4MX, shown in the photograph, Exhibit I-2, reaches the end of the leveling cam. This switch then opens and interrupts the flow of current to relays #27, #49 and #29. The interrupting of current to relay #27 causes its contacts #1 and #3 to open, interrupting the flow of current through the damping field, Figure 20 of this brief. The interrupting of current to relay #29 deenergizes the circuits which have been energizing the magnet of the brake and the mechanical spring brings the brake-shoes into engagement with the elevator motor, holding the car stopped. The interruption of flow of current to relay #49 opens its contact UT1 appearing in the top circuit on Figure 14. This interrupts the flow of current through relays #46 and #45. The interruption of current to relay #45 interrupts the current in a circuit leading to relay #48, whose contact M appears in the motor circuit (Figure 16 of this brief). This relay #48, however, is a slow-acting relay and does not open for two or three seconds to insure that the motor circuit will not be interrupted until the car has been held stationary at the landing.–

> "Main line contactor 48, as I understand it, operated by contactor 15 on brake release 29, does not open to affect contactor 48 until after the car has come to a complete stop. Witness DeCamp, in that connection, testified:
>
> " 'The generator armature is connected directly to the armature of the elevator hoisting motor by means of a main line contactor, which is closed while the elevator is in motion, and is kept closed for two or three seconds after the elevator has come to a complete stop. In other words, the main connections

between the Ward-Leonard generator and the main elevator hoisting motors are never disconnected until it is absolutely sure that the elevator has come to a complete stop, and only then for two or three seconds afterwards." [R. 641-2– Underscoring, Judge James.]

The elevator car is now stopped at the 7th floor landing and all of the circuits are restored to their original position. We shall not describe the various relays used in operating the elevator door and to restore the signal and slow-down circuits of the elevator to their original position. No one asserts these compare with anything shown in the Parker patent.

Hall-Button Selector Circuit (Randall Machine) (Figure 21 of this brief).–

Figure 21 shows the selector circuits employed in defendants' system for stopping the car when a hall-button has been pressed. These circuits are all part of the ordinary Randall Signal Machine purchased by defendants from the Randall Control & Hydrometric Corporation. The circuits shown are those employed when the 7th floor down hall-button is pressed. They are described in the record, at pp. 361-6. The pressing of the 7th floor down button immediately completes the top circuit on Figure 21. This circuit is reproduced from Exhibit P-1. The circuit may be traced as follows: From the main L1 through coil of relay #53, through the 7th floor down hall-button H7D, through coil of relay #33 having contact HR7D, to main L2. Relay #33 has two coils. The second coil is employed in a self-holding circuit for relay #33. This self-holding circuit is closed by contact HR7D of relay #33. It may be traced as follows: From main L1 through

contact HR7D, through contact R7D, through coil of relay #33, to main L2. The hall push-button then may be released and the top circuit opened.

Relay #33 has a second contact, also labeled "HR7D", in a circuit leading to the Randall Signal Machine. This circuit is the third circuit appearing on Figure 21 and is reproduced from Exhibit P-2. We have added the characters "C" on the contact, "B" on the carriage, and "S" on the strip of the selector, which characters do not appear in the drawings, Exhibit P-2. Four similar circuits are simultaneously closed to the respective four Randall Signal Machines of the four cars, but we have reproduced only the circuit to one machine which may be considered as connected to the first down car to approach the 7th floor landing. The circuit to the Randall Signal Machine may be traced as follows: From the main L1 through contact HR7D to the 7th floor contact C of the selector. This contact is engaged by the carriage B in the selector machine when the car arrives at about 1½ floors from the landing. The circuit is then completed from the contact C to bridge B, thence to strip S, to coil of relay #54 having contacts PL1-PL3, through contact 58 to main L2. Relay #54 is thus energized and closes its two contacts PL1 and PL3. Contact PL1 of relay #54 closes a circuit (not shown in the Figures of this brief) to energize a light in the elevator car to advise the operator that the car will stop at the 7th floor unless he desires to pass that floor by pressing the non-stop button. Contact PL3 on relay #54 connects the Randall selector with the automatic slow-down and stopping machine by the circuit shown in Figure 22.

Circuit for Connecting Randall Machine and Slow Down Machine (Figure 22 of this brief).–

This Figure shows the circuit closed by contact PL3 of relay #54 to connect the Randall machine with the automatic slow-down and stopping machine. This circuit appears on Exhibit O-2 and is described in the record, at p. 366. As will appear on Exhibit O-2, contact PL3 connects with each and every 2U and 2D cam-operated switch on the primary drum of the slow down machine. We have reproduced only one of such circuits. The circuit may be traced from the X main through contact PL3, through contact UOA, through the 2D2 cam-operated switch on the primary slow down drum, through relay #5, through contacts DO2, EA and OA, to the Y main. This circuit is closed by the cam on the primary slow down drum when the car is 12 feet from the 7th floor landing. It energizes relay #5. This is the relay that was energized when the car-button was pressed (as described in connection with the first circuit appearing on Figure 17 of this brief). The subsequent operations of decelerating and stopping the car then take place by the same circuits that have been described in connection with Figures 17, 18, 19 and 20 of this brief.

NON-INFRINGEMENT.

It is elementary that to infringe a patent, a machine must not only perform the same function and accomplish the same result as the patented machine, but it must also perform that function or accomplish that result by identical or substantially identical means, and the mode of operation of these means must be substantially the same as the mode of operation of the means described in the patent. (48 *Corpus Juris,* 302.)

> "The respective results of a machine or manufacture covered by the claim of a patent, and of a machine or manufacture alleged to infringe that claim, do not furnish a criterion by which to decide the question of infringement. Those results may be identical, while the mode of operation and the means by which the result is secured are different. Any person may accomplish the result performed by a patented thing without infringing the patent, if he uses means substantially different from those of the patent. To hold the contrary of this rule would be to retard, and not to promote the progress of the useful arts." (*Walker on Patents,* 6th Ed., p. 490.)

The means employed in defendants' elevators are substantially and entirely different from those of the patent. The means in defendants' elevators operate in a different way from the means described in the patent. These facts are readily established by a comparison of defendants' elevators with the specification and drawings of the Parker patent. Judge James finds:—

> "Before referri ng particularly to the exceedingly complicated mechanism of the defendants' elevators, which are claimed to embody infringement of the

Parker patent, it may be stated that I am unable to conclude that the Parker patent system could by any reasonable modification be transplanted into the elevator control system of the defendants; any attempt so to do would result in the essential means described by Parker being utterly changed, obliterated and lost so that no substantial identity could be ascribed to the resulting combination." [R. 640.]

This finding is in accord with the facts and applies the correct rule of law.–

> "Yet every equivalent, whether asserted in respect of a small or great invention, must respond to the rule enunciated in Morley v. Lancaster, 129 U. S. 263, 9 S. Ct. 299, 32 L. Ed. 715, viz., that where a combination of a plurality of mechanisms constitutes the invention, each mechanism is to be individually considered to determine equivalency, though the result of the plural operations working conjunctively is identical in the patented and accused devices."
>
> (*Diamond Match Co. v. Sun Match Corporation,* 16 Fed. (2d) 1 – C. C. A. 2nd Cir.)

> "To sustain the charge of infringement of a patented machine the infringing machine must be substantially identical with the one alleged to be infringed in (1) the result attained; (2) the means of obtaining that result; and (3) the manner in which its different mechanisms operate and co-operate to produce that result. If the machines are substantially different in either of these respects, the charge of infringement is not sustained. Machine Co. v. Murphy, 97 U. S. 120, 24 L. Ed. 935; Gill v. Wells, 22 Wall. 1-14, 22 L. Ed. 699; Fuller v. Yentzer, 94 U. S. 288-296, 24 L. Ed. 103; Fay v. Cordesman, 109 U. S. 408, 3 Sup. Ct. 236, 27 L. Ed. 979; Rowell v. Lind-

> say, 113 U. S. 97, 5 Sup. Ct. 507, 28 L. Ed. 906; Adams Electric Ry. Co. v. Lindell Ry. Co., 77 Fed. 432, 23 C. C. A. 223; National Hollow B. B. Co. v. Interchangeable B. B. Co., 106 Fed. 693, 45 C. C. A. 544." (*American Steel & Wire Co. v. Denning Wire & Fence Co.*, 176 Fed. 564, at 565 (affirmed 194 Fed. 117 – C. C. A. 8th Cir.))

This rule requires that the comparison be made of the individual mechanisms embodied in defendants' elevators with those disclosed in the Parker patent, and the manner in which the different mechanisms respectively operate and cooperate. Plaintiff has made no such comparison. It has compared only the final functions performed and the final result attained. A comparison of the kind required by the settled rule of law at once establishes that the defendants' elevators do not meet the test for infringement.

—

Parker's Car Switch.–

The car-switch of the Parker patent has no counterpart in defendants' machine. The car-switch in defendants' system has no separately movable arms carrying contacts similar to the contact 9 of the Parker car-switch nor any holding and releasing magnets for the car-switch corresponding to the holding magnet 32 and the releasing magnet 37. In defendants' elevators, when the car-switch is moved to the right or left the elevator car is started, but a return of defendants' car-switch to neutral position or any further operation thereof is without operative effect. After the car starts, its continued operation and stopping is not under the control of any part of the car-switch. The car-switch in the Parker patent is a master control

switch, because the continued movement of the car is at all times dependent upon and controlled by the contacts of the car-switch. The car-switch employed in the Pacific Finance installation is not a master switch.–

> "A master switch usually has what we may call a master control or, in other words, gives the operator complete control of the car by means of a switch."
> [DeCamp,– R. 385.]

Plaintiff made no attempt to show that the car-switch employed in defendants' elevators has anything to correspond with the circuit-closing plate 9 or the holding magnet 32, except to assert that these were transferred in defendants' elevators to somewhere on the panels in the pent-house. Plaintiff's expert admitted that he could not identify these in defendants' elevators [R. 542]. Judge James specifically finds [R. 643]:–

> "There is no similarity between the control lever of the defendants' system and the Parker specially designed starting lever with its circuit closing plates held by an electro magnet. There is no identity, substantial or of other kind, between the Parker coil 32 and relay 46, the 2U or 2D switches, or other innumerable circuit holding relays and contactors used in defendants' high speed elevator control system."

The contact plate 9 of the Parker car-switch is closed to start the car and is opened to stop the car. There is no contact in defendants' elevators which is closed to start the car and is opened to stop the car. The car-switch of the Parker patent, and the car-switch employed in defendants' elevators, are not constructed the same, perform different functions, and do not operate in the same way.

Parker's Primary Circuit.–

The primary circuit of the Parker patent does not exist in defendants' elevators. Closing the primary circuit in the Parker patent starts the car by energizing the pole changing switch. The Parker elevator continues to move as long as the car-switch keeps the primary circuit closed. Opening the primary circuit stops the car. In the defendants' elevators there is no circuit that is closed to start the car and opened to stop the car. Defendants' system has no neutralizing magnet 37. The running circuit in defendants' elevators (Figure 14 of this brief) is closed to start the car, but is not opened to stop the car. The operation of defendants' elevators depends upon the running circuit remaining closed until after the car has stopped. The primary circuit of the Parker patent is closed by the car-switch and opened by the car-switch. The running circuits in defendants' elevators are closed by the car-switch and are opened from the leveling drum. The leveling drum does not release the car-switch in defendants' elevators. The elements of the primary circuit of the Parker patent are not the elements of the running circuits in defendants' elevators. The primary circuit of the Parker patent, and the running circuits in defendants' elevators, do not perform the same functions. They operate in different ways. They establish different modes of operation between the respective devices of which they are composed.

Parker's Pole Changing Switch.–

There is no pole changing switch in defendants' elevators. The pole changing switch in the Parker patent is

energized by the primary circuit in one direction to close the motor circuit to start the car up, and in the other direction to close the motor circuit to start the car down. The pole changing switch is deenergized on the opening of the primary circuit to disconnect the motor and stop the car. The poles of the motors of defendants' elevators are permanently connected and no pole changing switch is used. Closing the direction switch (relay #27 on Figure 14 of this brief) in defendants' elevators closes the generator field circuit (Figure 15 of this brief). This direction switch is not opened to stop the car.–

> "The slowing down and leveling is not initiated by the opening of the direction switch. The direction or reverse switches would remain closed until the car was brought to the floor."
>
> [Plaintiff's expert,– R. 540.]

The pole changing switch of the Parker patent, and the direction switch in defendants' elevators, are entirely different in construction. They do not perform the same functions. Their modes of operation are distinctly different.

Parker's Floor Selector.–

> "The floor selector in defendant's apparatus is constructed in an entirely different manner from the floor selector shown in the Parker patent, so that there is no arm that corresponds to the arm—there is no member that corresponds to the member 34."
>
> [Plaintiff's expert,– R. 542-3.]

One function of the floor selector of the Parker patent is to close the secondary circuit to energize the neutralizing magnet 37. This releases the car-switch contact and opens

the primary circuit. Opening the primary circuit releases the pole changing switch and disconnects the elevator motor; disconnecting the elevator motor automatically sets the brake. The second function of the floor selector of the Parker patent is to level the car with the floor landing. This is accomplished by arranging the contacts on the floor selector so as to allow for the timely operation of the brake.–

> "Of course, it will be understood that the timing of the automatic secondary circuit closing means may be so arranged as to allow for the timely operation of the usual braking mechanism to overcome the momentum of the car so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level." (Parker patent, p. 5, lines 18-26.)

The point at which the Parker car will stop depends upon how far the car is from the floor landing at the time the secondary circuit is closed by the floor selector.

In defendants' elevators the floor at which a car is to stop in response to the car-buttons is selected by the switches on the primary slow down drum; the floor at which a car is to stop in response to the hall-buttons is selected by the Randall machine. The latter is connected to the switches on the primary slow down drum. The closing of the switch on the primary slow down drum in each case closes a circuit to the secondary slow down drum. The operation of the secondary slow down drum decelerates the car. The car is finally stopped from the leveling drum. There is no floor selector in defendants' system that closes a secondary controlling circuit to release the car-switch and break the running circuit. The running circuit is broken by the leveling drum. There is no floor

selector in defendants' elevators that operates to level the car with a floor landing. The closing of the floor selector circuits in defendants' elevators is not timed to rely upon the operation of the brake to bring the car to a stop in proper alignment with the floor level. The switch on the Randall selector is closed when the car is one-and-a-half floors from the landing, and the switch on the primary slow down drum is closed when the car is twelve feet from the landing. The deceleration and stopping of the car is controlled from the secondary slow down drum and leveling drum. Neither of these can select the floor at which the car is to stop. The construction of floor selector described in the Parker patent is not employed in the defendants' elevators. The functions performed by the floor selector of the Parker patent are different from the functions performed by the floor selectors in defendants' elevators. The floor selectors in the Parker patent and in defendants' elevators cooperate with entirely different mechanisms, to operate in entirely different ways.

Parker's Secondary Control Circuit.–

The secondary control circuit of the Parker patent includes a push-button, a floor selector contact, and the neutralizing magnet for opening the car-switch. There is no such circuit in defendants' elevators. There is no circuit in defendants' elevators which will open the car-switch. The car-switch contacts in defendants' elevators can be opened only by the operator moving the car-switch lever to neutral. The circuits from the car push-buttons in defendants' elevators lead only to the switches on the primary slow down drum. The circuits from the hall-buttons in defendants' elevators lead only to the Randall machine. The circuits from the Randall machine lead to

the switches on the primary slow down drum. The circuits from the primary slow down drum do not lead to the car-switch or to the running circuits. They connect only with the switches on the secondary slow down drum. No circuit in defendants' elevators includes the elements of the secondary control circuit of the Parker patent. No circuit in defendants' elevators performs the function of the secondary control circuit of the Parker patent. There is no circuit in defendants' elevators which operates in the same way or in any similar way to the secondary control circuit of the Parker patent.

Defendants' Slow Down and Stopping Machine.–

> "Wonderful ingenuity is displayed in the highly complicated slow down and floor selector machines used by the defendants." [Judge James,– R. 643.]

The operation of this machine has already been described in this brief. It is the most important element in defendants' elevators. Defendants do not attempt to stop or level an elevator car by the circuit closed by the switch on the primary slow down drum. This circuit in defendants' elevators does not open the running circuit. The switch on the primary slow down drum operates to close a circuit to a switch on the secondary slow down drum. The cam-operated switches on the secondary slow down drum then operate circuits to slow down the elevator car by inserting steps of resistance in the generator field circuit. The last of these switches transfers the control of the car to the leveling drum. The car at this time has been slowed down to a speed of 50 feet per minute. The switches on the leveling drum then operate circuits to substitute a damping field for the generator shunt field.

This slows the car down to a creeping speed. The running circuit is opened from the leveling drum when the car is traveling at a speed of only 25 feet per minute. The brake is not set until the car has arrived at less than three-quarters of an inch from the landing and is traveling at the creeping speed. The power is cut off from the hoisting motor after the car has been brought to a complete stop.–

> "The 2U and 2D switches operate intermediately only. For instance, referring to the use of 2U, which operates during the up movement of the elevator car; On the primary leveling drum carrying the 2U switch, the cam is short and only makes momentary contact, and then drops out and remains out. This contact causes relay No. 4 to energize relay No. 1. Relay No. 1 sets up a self-holding circuit, which maintains No. 1 during the slow down period until the car latch is raised. Relay No. 1 carries three normally open contacts, and one normally closed contact. One of the open contacts maintains No. 1 closed until the latch is raised. The second contact of No. 1 energizes coil 31, which is slow down contactor through resistor. The third contact on No. 1 energizes one side of coil 6, 7, 8, all of which, among others, insert resistance in the generator field in conjunction with the secondary slow down drum to reduce speed in diminishing steps. Without following through by number the contacts intervening or describing specifically the detailed operation of the 3-E switches on secondary slow down drum, the point is reached where the back contact of No. 11 relay closes and circuit is set up to transfer the direction contactors to leveling drum No. 4 carrying the MS switches. After this time, direction contactor is entirely under the control of the cams on leveling drum

> No. 4. The car is then traveling at only the rate of about 25 feet per minute. When the car reaches within a fraction of an inch of the floor, the 4 MS switch is released by the cam running out from the switch roller, direction contactor 27 is opened to kill the generator field, the brake is released through contactor 29, the car stops level with the floor, contactor 15 on brake release 29 thereafter opens 31 and main line 48 and motor field 19 is deenergized. As before mentioned, the last operation occurs after the car has come to a complete stop." [Judge James,– R. 642-3.]

The slow down and stopping operations occur after the switch on the primary slow down drum has dropped out and ceased to function. The slow down and stopping operations are dependent on the continued travel of the car to actuate the switches on the secondary slow down drum and the switches on the leveling drum. This is an entirely different mode of operation from that described in the Parker patent. There is nothing in the Parker patent that corresponds to the secondary slow down drum and the leveling drum in defendants' elevators. When a secondary controlling circuit is completed by the floor selector in the Parker patent, the stopping of the car is not dependent in any way upon continued movement of the car subsequently actuating any further switches or circuits. The presence of the automatic slow down and stopping machine in defendants' elevators imparts a fundamentally different mode of operation from that described in the Parker patent.

Without greatly extending this brief, it is not possible to deal with all the substantial differences in means, mode of operation, or combinative relation of devices existent

between the disclosure of the Parker patent and defendants' elevators. We have used the foregoing comparison of Parker's Car Switch, Primary Circuit, Pole Changing Switch, Floor Selector, Secondary Control Circuit, and Defendants' Slow-Down and Stopping Machine to illustrate the totally distinct "idea of means", "mode of operation", and "combinative relation" embodied in defendants' elevators. The contrast might well be carried much further and in greater detail, but sufficient comparison has been made to demonstrate that defendants' elevators embody a different and distinct combination in patent law from the disclosure of the Parker patent.

Different Combination.–

The patent in suit describes a particular combination of admittedly old elements. The defendants' elevators employ a different combination of elements. There is no infringement unless these combinations are identical within the meaning of this term in the patent law. The test of identity of combination is well settled.–

> *Robinson on Patents,* Vol. I., p. 384:–
>
> **"§277. Identity of Combinations, how Tested.**
>
> "A combination is a group of elements united in a method of co-operation. In its identity two subordinate identities concur: identity of elements; identity in the mode of their co-operation. The essential qualities of a combination thus include the essential qualities of each of its constituent elements, the essential qualities of their method of co-operation, and the essential qualities resulting from the union of these elements under this co-operative law. Hence in determining the identity of a combination the investigator meets, and is required to answer, the four fol-

lowing questions: (1) What are its constituent elements? (2) What are the essential qualities of each? (3) What is the nature of its co-operative law? and (4) What are the new intrinsic attributes resulting from the combination of the old?"

In *Fuller v. Yentzer,* 94 U. S. 288, 24 L. ed. 103, at 105, the Supreme Court says:–

> "Where the invention is embodied in a machine, the question of infringement is best determined by a comparison of the machine or apparatus constructed or used by the respondent with the mechanism described in the specification of complainant's patent."

This Court said, in *Jensen Can-Filling Machine Co. v. Norton,* 67 Fed. 236, at 238:–

> "To make a case against the defendants of infringement of this patent, the Jensen machine must be shown to have substantially the same combinations, including every one of the above-mentioned devices, or mechanical equivalents for any that may have been omitted. 'Mechanical equivalents,' as that phrase is to be understood in this connection, are such devices as were known previously, and which, in the particular combination of devices specified as constituting the patented invention, can be adapted to perform the functions of those specified devices for which they are employed as substitutes, without changing the inventor's idea of means. In other words, without introducing an original idea, producing, as the result of it, an improvement which is itself a patentable invention."

Applying the foregoing rule, it is at once apparent that there is no identity of combination between the defendants'

elevators and the Parker patent such as required to establish infringement.–

(1) The constituent elements of the two combinations are different;

(2) The essential qualities of the two combinations are different;

(3) Their respective laws of co-operation are different;

(4) Nothing that is new in the combination of the Parker patent is employed in the defendants' elevators.

The elements of defendants' elevators cooperate in an entirely different way and employ a totally different mode of operation from those disclosed in the patent in suit. This establishes that the combination used by the defendants is not legally identical with that described in the patent in suit.–

> "If the mode of operation of an alleged infringing thing is substantially different from that covered by the claim alleged to be infringed, it follows that the charge of infringement must be negatived; * * *."
>
> (*Walker on Patents* (6th Ed), Sec. 402, p. 491.)

> "Where the mode of operation of the alleged infringement is substantially different from that of the patent in suit, infringement does not exist."
>
> (*Hopkins on Patents,* Section 279.)

> "If the device of the respondent shows a substantially different mode of operation, even though the result of the operation of the machine remains the same, infringement is avoided."
>
> (*Cimiotti Unhairing Co. v. American Co.,* 198 U. S. 398, at 414; 49 L. ed. 1100, at 1107.)

"The two capital criteria by which to determine the question of infringement are structure and mode of operation. Where both of these are substantially the same in two machines, their identity for purposes of the patent law is established; but, when either is absent, the requisite identity to constitute infringement is as a rule wanting."

(*American Steel & Wire Co. v. Denning Wire & Fence Co.,* 194 Fed. 117, at 120 – C. C. A. 8)

The authorities establish that two combinations possess the same mode of operation only when the allegedly corresponding elements of both combinations are united by the same cooperative law so that the elements perform their individual function by applying the same force to the same objects or elements. A study of the authorities will show that the test is stated by the authorities in the following expressions:

(1) That the elements of each system must perform "the same function by applying the same force to the same object." (*Hardison v. Brinkman,* 156 Fed. 962, 967 – C. C. A. 9)

(2) The elements "must be united together by the same cooperative law."

(*Leeds & Catlin Co. v. Victor Talking Machine Co.,* 213 U. S. 301, 320, 53 L. ed. 805, 813.)

(3) The elements "must perform that function by applying the same force to the same object, through the same mode of application."

(*Dey Time Register Co. v. Syracuse Time Recorder Co.,* 152 Fed. 440 at 450.)

(4) The elements in each must be arranged the same. The combinations are not the same, "even

> though the same ingredients are used, if arranged and used in a substantially different manner."
>
> (*Machine Co. v. Murphy*, 97 U. S. 120, 24 L. ed. 935.)

Many applications of this rule might be made to the instant case. One example is as follows: In the Parker patent the floor selector and the secondary control circuits "operate upon" the running circuits to stop the car. In defendants' system the floor selector or secondary control circuits are combined with an entirely non-comparable device—the automatic slow-down and stopping machine. It cannot be said, therefore, that the floor selector or the secondary control circuits of defendants' elevators apply the same force to the same object, nor can it be said that the cooperative law is the same, nor can it be said that the elements of defendants' system operate upon the same elements, or that there is the same relationship of elements. This demonstrates that defendants' elevators do not have the same combination as that described in the Parker Patent.

Plaintiff asserts that the use of the automatic slow down and stopping machine in defendants' elevators is but a mere addition or improvement to the Parker patent. It is of course the rule that a mere improvement or addition to a patented machine does not take the device out from under the scope of a patent. But the term "addition" or "improvement" in this sense has a special meaning. It does not mean that the patent covers all better machines. There must be substantial identity of the elements of the patented combination present in the defendants' machine, and not only the mode of operation of

the patented combination as a whole, but substantial identity in the respective alleged comparable elements, both in structure, function, and mode of operation. If by the insertion of a new element into the patented combination, or by a re-arrangement of the manner in which the elements of the patented combination cooperate together, the patented combination is broken up, a new and different combination is produced. This is the effect of the presence of the automatic slow down and stopping machine in defendants' elevators.

> "There is no infringement where the combination claimed is changed or destroyed by an addition making a new combination; * * *." (48 *Corpus Juris,* p. 316.)
>
> "For where several elements, no one of which is novel, are united in a combination which is the subject of a patent, and these several elements are thereafter united with another element into a new combination, and this new combination performs a work which the patented combination could not, there is no infringement."
>
> *(United States v. Berdan Firearms Mfg Co.,* 156 U. S. 552, 39 L. ed. 530, at 534.)
>
> "If however, such changes of size, form, or location effect a change in the principle or mode of operation such as breaks up the relation and co-operation of the parts, this results in such a change in the means as displaces the conception of the inventor, and takes the new structure outside of the patent."
>
> *(Union Steam Pump Co. v. Battle Creek Steam Pump Co.,* 104 Fed. 337, at 343.)

This rule was applied by this Court in *Smith Cannery Machines Co. v. Seattle-Astoria Iron Works Co.,* where

Judge Gilbert said that a mere improvement or addition does not avoid infringement because the machine complained of is superior, more useful or more suitable.–

> "unless its superiority is due to a difference in function or mode of operation or some essential change in character." (261 Fed. 85, at 88.)

Lack of Equivalency.

Infringement cannot be shown by the mere assertion that the elements of defendants' combination are the equivalent of the elements described in the patent. Plaintiff claims that such equivalency exists because the final result accomplished by the defendants' elevators is the same as the result alleged to be accomplished by the Parker patent. This is not the test of equivalency.–

> " 'The argument used to show infringement assumes that every combination of devices in a machine which is used to produce the same effect is necessarily an equivalent for any other combination used for the same purpose. This is a flagrant abuse of the term 'equivalent.' "
>
> (*Westinghouse v. Boyden Power Brake Co.*, 170 U. S. 537, 568, 42 L. ed. 1136, 1147.)

There is no equivalency unless there is substantial identity of the individual elements, and these elements must perform the same functions by applying the same force to the same object through the same mode of application. This is the only legal test of equivalency. Plaintiff has not applied that test.

> "A mechanical equivalent which may be substituted for an omitted mechanical element in a combination claim is one that performs the same function by ap-

plying the same force to the same object through the same means and mode of application."

(*Hardison v. Brinkman,* 156 Fed. 962, at 967 (C. C. A. 9th Cir., Judge Gilbert.))

Where an additional element is inserted into a combination and the remaining elements are so arranged that instead of cooperating together as they did in the patent in suit, they cooperate with the new element in a different manner, then the combination operates according to and in obedience to another and different cooperative law and is a separate and independent invention—not a mere substitution of mechanical equivalents.–

"An equivalent must not vary in any manner the idea of means, or affect it in any degree. It is quite true that the equivalent may perform some new or additional function in the invention, and still be an equivalent; but it must perform all the functions of the element for which it is a substitute in substantially the same way, and I do not think that it is material that the element for which another is substituted has more parts or less parts. The substitution of an equivalent is, however, a mere change of parts and form involving no inventive skill, but suggested by the invention itself to every person skilled in the particular art. If the alleged equivalent not only performs the function of the element for which substituted, and perhaps more, but introduces into the combination a new idea, or new ideas, or a much more extended development of the idea of means, then we do not have the substitution of an equivalent, but a patentable improvement—something different in principle and function. In combination claims this is especially true. 1 Rob. on Patents, 254; Wells v. Curtis, 66 Fed. 318, 13 C. C. A. 494; 20 Eng. Pat. Cas. Am. Notes, 271.

"When we have in combination certain elements working together and co-operating to produce a given result, they work in accordance with and in obedience to some law of co-operative action. When we change one element which works and operates differently from the one for which it is a substitute we necessarily change the action of all, and then the combination operates according to and in obedience to another co-operative law, and we have a new combination working in a different way to produce a result, and it may be the same result; but it is not obtained in the same way by the co-operation of the same elements or their equivalents. Such, in my judgment and opinion, is this case. It is not enough that the two elements, one of which is alleged to be the equivalent of the other, perform the same function when in the same place; but they must perform that function by applying the same force to the same object, through the same mode of application. Goodyear Dental Vulcanite Co. v. Davis, 102 U. S. 222, 26 L. Ed. 149, which was a patent for a process; Burr v. Duryee, 1 Wall. 531, 572, 17 L. Ed. 650, 660, 661; Westinghouse v. Power Brake Co., 170 U. S. 568, 569, 18 Sup. Ct. 707, 42 L. Ed. 1136; Curtis on Patents, (4th Ed.) Sec. 310; Machine Co. v. Murphy, 97 U. S. 125, 24 L. Ed. 935; Carter Machine Co. v. Hanes, (C. C.) 70 Fed. 859, 865; Duff Mfg. Co. v. Forgie, 59 Fed. 772, 775, 8 C. C. A. 261, citing and approving 1 Rob. Pat. Cas. Sec. 247."

(*Dey Time Register Co. v. Syracuse Time Recorder Co.,* 152 Fed. 440, at 450-1.)

The test for equivalency establishes at once that the elements employed in defendants' elevators are not the equivalents of the elements described in the Parker patent. The elements in defendant's elevators do not perform the

same functions, by applying the same force to the same object, through the same means and mode of application. No attempt has been made by plaintiff to show this. The comparison already made in this brief demonstrates that there is no equivalency. Judge James correctly found that the Parker system cannot by any reasonable modification be transplanted into the elevator control system of the defendants and that any attempt so to do would result in the essential means described by Parker being utterly changed, obliterated and lost, so that no substantial identity could be ascribed to the resulting combination. [R. 640-1.] The elements employed in defendants' system can be contrasted, but not compared, with the elements described in the Parker patent. This is true both of the construction of the elements and their mode of operation. As said by Judge James [R. 643]:–

> "There is no similarity between the control lever of the defendants' system and the Parker specially designed starting lever with its circuit closing plates held by an electro magnet. There is no identity, substantial or of other kind, between the Parker coil 32 and relay 46, the 2U or 2D switches, or other innumerable circuit holding relays and contactors used in defendants' high speed elevator control system."

The same is true of all the other elements employed in defendants' system.

Use of Old Elements.–

The only comparison that plaintiff attempts to make between the means employed in defendants' elevators and the means described in the Parker patent is to assert that both accomplish the same final result and that each em-

ploys certain elements, such as buttons in the hall and in the car; a car-switch; an elevator motor; a floor selector; electric circuits, etc. Every element compared by plaintiff was in common use in elevators in the prior art. Plaintiff has not asserted that there is any element present in both defendants' machine and in the Parker patent that was not used in the prior elevator art for performing the same function. Plaintiff has not attempted to show that the elements compared by plaintiff are combined together in defendants' elevators and in the Parker patent in the same way. Such a comparison does not in any way prove infringement in this case. Defendants are not guilty of infringing the Parker patent, in using elements that were old in the prior art, because these same elements are used in the Parker patent. All these elements are in law open to use by the defendants. No one of them is claimed to be the invention of Parker. The decision of the Supreme Court in *Electric R. R. Signal Co. v. Hall Ry. Signal Co.*, 114 U. S. 87, 29 L. ed. 96, 98, is a leading case establishing the foregoing rule. The patent there in suit was for an electric signal control system. It differed from the Parker patent only in that it was used on railroads instead of elevators. The elements of the patent consisted of relays, switches, selectors and circuits. Plaintiff there claimed that the patent covered a certain "block" system of controlling railroad cars. The court said:

> "It is upon these two points that the question of infringement depends.
>
> "In considering them it is important to bear in mind that the patent is for a combination merely, in which all the elements were known and open to public use. No one of them is claimed to be the

invention of the patentee. He does not claim them himself as separate inventions. It is simply a new combination of old and well-known devices, for the accomplishment of a new and useful result, that is claimed to be the invention secured by the patent. And the well settled principles of law heretofore applied to the construction of patents for combinations merely, must apply and govern in the present case.

"The object of the patented combination was the accomplishment of a particular result, that is, to work electric signals on what was known as the 'block' system, by means of circuits, operated by a single battery instead of many. But this result or idea is not monopolized by the patent. The thing patented is the particular means devised by the inventor by which that result is attained, leaving it open to any other inventor to accomplish the same result by other means. To constitute identity of invention, and therefore infringement, not only must the result attained be the same, but in case the means used for its attainment is a combination of known elements, the elements combined in both cases must be the same, and combined in the same way, so that each element shall perform the same function, provided, however, that the differences alleged are not merely colorable, according to the rule forbidding the use of known equivalents."

"The patent is granted for the combination, as 'the particular means devised by the inventor by which that result is attained,' and the patentee is entitled to protection against any use of the same combination of elements, combined in the same way, so that each element performs the same function, or against substantially the same use with deviations which are merely colorable. But each of these well-known elements remains open to the use of the sub-

sequent inventor for a different combination for like results. Electric Signal Co. v. Hall Signal Co., 114 U. S. 87, 96, 5 Sup. Ct. 1069, 29 L. Ed. 96."

(*Milwaukee Carving Co. v. Brunswick-Balke-Collender Co.*, 126 Fed. 171, at 184 – C. C. A. 7)

"Much of the brief for appellant is devoted to pointing out likeness in details between the elements of the patented machine and defendant's machine. The force of these arguments is greatly weakened, if not wholly destroyed, by the conceded fact that the elements of these machines are old in the art of fence making. All that Bates did was to combine them in the requisite plurality and particularly the mechanism for feeding the plurality of stay wires simultaneously and transversely of the strand wires in straight line sequence. The modifications which he made in the old elements in order to combine them in this plurality certainly required, when compared with the prior art, no greater exercise of inventive talent than was used by defendant in making the modifications necessary to substitute continuous for intermittent action. Both used the same old elements and hence it is an easy matter to point out likenesses."

(*American Steel & Wire Co. v. Denning Wire & Fence Co.*, 194 Fed. 117, at 120 – C. C. A. 8)

The rule established by these cases is peculiarly applicable here. Plaintiff admits that the defendants' elevators do not employ the type of floor selector, the type of car-switch, the type of elevator motor, the type of running circuit, or the type of secondary control circuit, described in the Parker patent. Plaintiff asserts that defendants have substituted for these the common type of elements employed in the prior art. The rule of these

cases establishes that defendants had the right to do this so long as they did not combine them in the way described in the Parker patent. We have already demonstrated that the relation of these elements in defendants' elevators is entirely different from the relation of the elements described by Parker. Certainly, under this rule, the defendants cannot be held for infringement merely because they use the common form of push-button stopping cirsuits described in the prior art in the Smalley & Reiners and Ihlder patents.

Failure of Proof.–

No further citation of authority is required to demonstrate that plaintiff cannot establish infringement by merely showing that defendants' elevators accomplish the same result alleged to be accomplished by the Parker patent. The burden of proof was on plaintiff to establish the identity of the elements employed in the defendants' elevators with the elements described in the Parker patent, and that these elements cooperate in the same way. Plaintiff made no attempt to identify the elements in defendants' elevators that plaintiff alleged correspond to the elements of the Parker patent. For example, plaintiff's expert was asked to make a comparison, and testified as follows:–

> "The witness was asked how the structure shown in the Parker patent compares with the construction and operation of the Otis Elevator Company's signal control elevators. Objected to as not the best evidence. Objection overruled. Exception.
>
> "The witness answered: They are the same."
>
> [R. 147.]

When asked on cross-examination what he meant by his answer that they were the same, plaintiff's expert testified that he meant only that they performed the same function.–

> "Q. What do you mean when you say a thing is just the same? A. I mean it performs the same function. Q. You don't mean it does it in the same way or that it is constructed the same? A. No."
>
> [R. 212.]

At another point in the trial an expert for plaintiff was asked to identify the part in defendants' elevators that was claimed to correspond to part 4 of the Parker patent. He testified as follows:

> "The part of defendants' installation that corresponds to the part 4 is a relay contact upon one of the control panels. It is the one that is actuated by the circuit that is set up by moving the car switch lever into operating position. I cannot locate it as I do not recall just where it is on the control panel."
>
> [R. 542.]

No attempt was made by plaintiff to show that there is any similarity in the construction of such elements or in the way they functioned. The court below has found that there is no similarity. The record contains no testimony in conflict with this finding of the court. There is a failure of proof on plaintiff's part on the issue of infringement. This Court should not now be called upon to make the necessary comparison. In the absence of any testimony, this Court is not required to review the finding of the court below. If plaintiff's expert witnesses could not identify the elements in defendants' elevators that were

contended to correspond to the elements in the Parker patent, it is unreasonable to expect this Court to do so.–

> "The complainant has vouchsafed no explanation of the construction or operation of this patent, other than that he finds the elements and combinations covered by said claims in defendant's machine; that defendant's yielding head accomplishes practically the same results and is a mechanical equivalent of that claimed in plaintiff's patent; 'that he never put upon the market a machine exactly such as is described in said patent,' but that his commercial collar and cuff edger 'contains all or substantially all of the elements in those patents;' and that 'defendant's machine is mechanically substantially the same, as far as the elements contained in it are concerned, as the devices that are described by the elements claimed in the two aforesaid patents.' With the exception of a discussion of some of the phraseology of claim 33, this is all the material evidence as to this patent in the record.
>
> * * * * * * * *
>
> "We do not question the rule which permits a complainant to introduce a patent whose mechanical details are simple, and where the issue of infringement is sharply defined, without burdening the court with useless expert testimony. But this rule has no application to a case like this, where the operative construction embodies only a portion of the two patents in suit; where material and difficult questions of form, of operation, and of equivalency of function are involved; where the validity of a reissue is challenged on the ground that the reissued patent is for a different invention; and where the 39 claims of one of the patents are projected before the court without any attempt to analyze them, or read them upon defendant's patent or commercial machine. Wa-

terman v. Shipman, 55 Fed. 982, 5 C. C. A. 371."
(*Fay v. Mason,* 127 Fed. 325, at 330-333 – C. C. A. 2nd Cir.)

Plaintiff's Exhibit 16 was introduced at the trial of this case to show infringement of the Parker patent by defendants' elevators. This exhibit purported to show the arrangement of the circuits and elements in defendants' elevators. The exhibit was a pure figment of plaintiff's imagination. It was the only attempt made by plaintiff in the evidence to make an element-for-element comparison of defendants' elevators with the Parker patent, and it is a sham. Plaintiff's witnesses were compelled on cross-examination to admit that the circuits and devices shown on this exhibit do not exist in defendants' elevators.–

"Plaintiff's Exhibit 16 does not show the wiring as it actually exists." [R. 232.]

Exhibit 16 illustrates a relay marked "E." This relay, as shown in Exhibit 16, is energized by the selector circuit and provided with a switch or contact in a primary circuit leading to a pole changing switch. Exhibit 16 represents that there is a primary circuit to a pole changing switch to energize a motor in defendants' elevators. Exhibit 16 also represents that there is a secondary circuit in defendants' elevators which breaks the primary circuit to deenergize the pole changing switch to stop the car. [R. 239-40.] These are but a few examples of the misrepresentations embodied in Exhibit 16. There are no such elements in defendants' elevators. The master did not accept Exhibit 16 in his report and said that:–

"Plaintiff's Exhibit 16 is argumentative rather than illustrative." [R. 575.]

At the argument of this case before the district court plaintiff's counsel admitted that Exhibit 16 does not correctly describe defendants' system and that it should not be used in this case.–

> "Mr. L. S. Lyon: There is one thing I would like to caution your Honor against and that is Plaintiff's Exhibit No. 16. They made a diagram that looked as much like the Parker diagram as they could get it and said that that was our system. And the Master rejected that. That should not be used at all. It is referred to in plaintiff's brief, but it should not be used. It shows a floor selector purporting to be in the defendant's system, with a circuit back to the car and all that. And, as the Master says, it is purely argumentative.
>
> "Mr. Lane: I have admitted that, your Honor." [R. 548-9.]

Notwithstanding this, Exhibit 16 is reproduced as Plate II in the Appendix to Plaintiff's Brief on this appeal. This is inexcusable. It cannot be accounted for on any theory except that plaintiff desires to mislead the Court. Plaintiff says in its brief (p. 60):–

> "For further simplification we have left in the Appendix to this Brief 'Plaintiff's Exhibit 16' [R. 142] which as the master says [R. 575] 'is argumentative.' Still, taken in connection with the evidence of Mr. Crabbe [R. 152-158], it enables one to readily perceive from this schematic drawing, that defendants' installation utilizes, and is dominated by Parker's 'Control'."

This can only mean that plaintiff concedes that the comparison between defendants' elevators and the Parker patent begins and ends with a comparison of the result

only. Exhibit 16 is not to be understood as showing the elements employed in defendants' elevators or the way in which those elements function. The cross-examination of plaintiff's expert Crabbe established that the mechanism and circuits appearing on Exhibit 16 do not exist in defendants' elevators. Exhibit 16 has no probative value and is no evidence of infringement.

Claim 3.–

Plaintiff elected to stand in this case upon claims 3, 22, 29, 37, 40, 41 and 65 of the re-issue patent in suit [R. 51]. Claim 3 was a claim of the original Parker patent. Claims 22, 29, 37, 40, 41 and 65 were obtained by the re-issue. Claim 3 is expressly limited to features that are not used in defendants' elevators. The claim has the following elements:

(1) a guided movable body;
(2) an electrical controlling circuit;
(3) a *switch on said body* manually operable for closing said circuit;
(4) means *holding said switch* in circuit closing position;
(5) *selective means for actuating the release of said switch holding means* to stop said body at one or more predetermined points in the line of its travel, said selective means comprising
(5a) a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point, and
(5b) an automatic circuit closer actuated upon the arrival of the body at said selected stopping point.

This claim is expressly limited to a combination in cluding means for holding the switch on the car in closed position and in which the circuit from the floor selector releases the car switch holding means. The claim does not include holding means for a switch which switch is not in the car and does not include the use of a selector circuit which does not release the holding means. The words "a switch on said body" of element (3) expressly locate the switch on the elevator car. The words "means holding said switch" in element (4) expressly limit this element to means for holding the car switch. The words "selective means for actuating the release of said switch holding means" of element (5) expressly ascribe the function of releasing the car switch holding means to the selector. These limitations clearly distinguish the claim from defendants' elevators. The car switch in defendants' elevators has no holding means. Both the car switch handle and the car switch contacts in defendants' elevators may be returned to neutral without stopping the car (Figure 14 of this brief). The circuit completed by the floor selector in defendants' elevators does not release any holding means in the running circuit. It only completes a circuit to a switch on the secondary slow down drum. The running circuit is opened from the leveling drum after the slow down machine has functioned.

The master ignored the foregoing limitations in claim 3. He did so because he found the form of car-switch described by Parker and the use of the selector circuit to open that car switch would not be an advance, but a step backward, in the art.–

> "It is evident that Parker specified his self-holding switch's location within the car in ignorance of the

practice then followed by workers in the art, which are aimed at removal of as many circuits as possible from the car." [*Master's Report,*– R. 581.]

"The actual form of his (Parker's) car switch is possibly a new form of a self-holding switch but it is evident that his form of switch was not an improvement. It was but a crude conception when compared with older means. At that time engineers had learned to put as many of the control circuits as possible in the pent-house and not in the car. It would be a step backward to bring the secondary circuits through the car." [*Master's Report,*– R. 562.]

The master clearly erred in concluding that because of this he should disregard the limitations of claim 3:

"But, whether the invention is large or small, primary or trivial, it remains true that, when a claim is clear and distinct, the patentee cannot go beyond the words thereof for the purpose of establishing infringement; the specification may be referred to for the purpose of limiting, but not of expanding, a claim, and the range of equivalents is measured by what is described *and* claimed. Westinghouse, etc., Co. v. New York, etc., Co., 119 Fed. 874, 56 C. C. A. 404; Universal, etc., Co. v. Sonn, 154 Fed. 665, 83 C. C. A. 422; Loraine, etc., Co. v. General, etc., Co., 202 Fed. 215, 120 C. C. A. 615; Fowler, etc., Co. v. McCrum, etc., Co., 215 Fed. 905, 132 C. C. A. 143."

(*Homer Brooke Glass Co., et al., v. Hartford-Fairmont Co.,* 262 Fed. 427, at 430 – C. C. A. 2)

The limitation in claim 3 to the location of the car switch in the car and the use of the holding means to control that switch cannot be ignored in interpreting the claim or determining equivalency.–

"From a review of these and other familiar cases, we think it is safe to deduce the proposition that where the claim defines an element in terms of its form, material, location or function, thereby apparently creating an express limitation, where that limitation pertains to the inventive step rather than to its mere environment, and where it imports a substantial function which the patentee considered of importance to his invention, the court cannot be permitted to say that other forms, which the inventor thus declared not equivalent to what he claimed as his invention, are nevertheless to be treated as equivalent, even though the court may conclude that his actual invention was of a scope which would have permitted the broader equivalency."

(*D'Arcy Spring Co. v. Marshall Ventilated Mattress Co.*, 259 Fed. 236, 240 – C. C. A. 6)

"A patent for protecting a spring by locating it on the inside of the trolley harp is not infringed by placing it in a recess on the outside, any more than a patent for protecting it by countersinking it on the outside is infringed by locating it wholly on the inside. Although the result may be the same, the device is different, and the patent covers only the device." (*Star Brass Works v. General Electric Co.*, 131 Fed. 78, at 81 – C. C. A. 6th Cir.)

"In fact, it may be said that defendant's construction is founded on a discovery not disclosed in the patent in suit, namely, that the change, which the patentee supposed could only be obtained by a location in the main or working circuit, might be obtained by a location in the generator circuit. In these circumstances the rule must be applied that, while a patentee is entitled to all the beneficial uses of his invention when the property or function is inherent in the invention or is described or claimed by him,

yet that, where such change or function is neither described nor claimed, and especially where other changes are described and insisted on as essential and specifically claimed, it is significant proof that the change which has not been disclosed by him to the public is not his invention. Fastener Co. v. Kraetzer, 150 U. S. 111, 14 Sup. Ct. 48, 37 L. Ed. 1019; Goodyear Tire Co. v. Rubber Tire Co., 116 Fed. 375, 53 C. C. A. 583; Long v. Pope Mfg Co., 75 Fed. 835, 21 C. C. A. 533; Wells v. Curtis, 66 Fed. 318, 13 C. C. A. 494; Bates v. Force Co. (C. C. A., 2d Circuit, Nov. 7, 1906), 149 Fed. 220."

(*Electric Storage B. Co. v. Gould Storage B. Co.,* 158 Fed. 610, at 617 – C. C. A. 2)

The limitation in claim 3 providing that the circuit established by the floor selector shall release the holding means to open the running circuit cannot be ignored. The claim is limited by ascribing that particular function to the circuit. The law is well established that a claim of that character is not infringed where the circuit performs a function that is not the function ascribed in the claim.–

"Where a claim ascribes a function, to any of the things which it specifies, that ascription is a limitation of that claim."

(*Walker on Patents* (6th Ed.), p. 313.)

"To ignore the express functional limitation of the claim, viz. 'whereby they are enabled to fold back into the case side by side,' would be to create a new claim; not interpret the one granted. The court below rightly held there was no infringement."

(*E. & H. T. Anthony Co. v. Gennert,* 108 Fed. 396, at 398 – C. C. A. 3rd Cir.)

"The construction contended for by Mr. Benjamin cannot be adopted, because, as a matter of law, it is settled that such a specific statement of function thus inserted into a claim as material cannot be disregarded." (*Thompson Meter Co. v. National Meter Co.,* 106 Fed. 519.)

"In the combination of each claim we find the element of 'arms adapted to engage with the sides of the hole, and to hold the casing to afford resistance to the packer.'

* * * * * * * *

"To ignore the express functional limitation of the claim, viz, 'arms adapted to engage with the sides of the hole,' would be to create a new claim, not interpret the one granted."

(*Masseth v. Larkin et al.,* 111 Fed. 409.)

Non-infringement of claim 3 is clearly demonstrated. The interpretation of this claim given by the master is directly contrary to settled law. At the time plaintiff purchased the original Parker patent, plaintiff recognized that claim 3 was of limited scope. The purchase of the patent by plaintiff was conditioned on Parker executing an application for a reissue of the patent. The reissue application was based on the assertion of plaintiff that all of the claims of the original patent were narrowly limited and that the patent must be re-issued to secure broad claims.

Claim 3 is fully and completely anticipated in the prior art if the foregoing limitations are disregarded. The equivalent of every element of claim 3, except the use of the holding means for the switch within the car and the use of the selector circuit to release that particular holding means, is shown in the prior art patents to Strohm (Exhibit X-10) and Ihdler (Exhibit X-13).

"A combination is identical in substance with what is already known or used, patented, or described in a printed publication, if it consists of the same elements, or their mechanical equivalents, combined in substantially the same way to produce substantially the same result." (48 *Corpus Juris,* 31.)

The elements of claim 3 appear in the Strohm patent as follows:

Claim 3 of Reissue Letters Patent in Suit	Structure Disclosed in Strohm Patent, Defendants' Ex. X-10.
(1) The combination with a guided movable body	Elevator car A movable within its shaft;
(2) of an electrical controlling circuit,	The primary control circuit of Strohm (Figure 11 of this brief);
(3) a switch on said body manually operable for closing said circuit,	The car-switch 85 (Figure 11 of this brief) or the rope A operating valve 44 to energize magnet f;
(4) means holding said switch in circuit closing position,	The magnet f and its contacts 67 (Figure 11 of this brief);
(5) and selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel,	The secondary control circuit (Figure 12 of this brief), which deenergizes magnet f to stop the elevator car;
(5a) said selective means comprising a manually operable circuit	The secondary control circuit includes the manual circuit closer F which is

closer to be actuated prior to the arrival of the body at a selected stopping point, and	actuated by the passenger prior to the arrival of the car at the floor; and
(5b) an automatic circuit closer actuated upon the arrival of the body at said selected stopping point.	The automatic circuit closer 29 actuated by the shoe G when the car arrives at the selected stopping point.,

The elements of claim 3 appear in the Ihlder patent as follows:–

Claim 3 of Reissue Letters Patent in Suit	Structure Disclosed in Ihlder Patent, Def'ts Exhibit X-13.
(1) The combination with a guided movable body	The elevator car X;
(2) of an electrical controlling circuit,	The control circuit (see Figure 9 of this brief), comprising the circuit to the "up" direction switch magnet coil B^{10} or the "down" direction switch magnet B^{9}:
(3) A switch on said body manually operable for closing said circuit,	Any one of the push-buttons g^{1} to g^{6}, inclusive, located upon the elevator car (g^{6} being shown in Figure 9);
(4) means holding said switch in circuit closing position,	The holding magnet D (Figure 9 of this brief), which when energized closes a self-holding circuit

	through its contact D′, thereby holding the control circuit closed;
(5) and selective means for actuating the release of said switch holding means to stop said body at one or more predetermined points in the line of its travel,	The car is stopped at any one of the floors which it serves by reason of releasing the holding circuit, this selective means including
(5a) said selective means comprising a manually operable circuit closer to be actuated prior to the arrival of the body at a selected stopping point, and	The selective means include the push-button g^6, which is pressed prior to the arrival of the car at the floor;
(5b) an automatic circuit closer actuated upon the arrival of the body at said selected stopping point.	The selective means also include the selector having automatic operating contacts f^6 which, when the car arrives at the corresponding floor, release the holding magnet D.

Judge James was clearly correct in finding that the novelty of the Parker patent is limited to the particular form of car-switch described by Parker and the use of the selector circuit to release that car-switch. The claim must be held invalid if given the broad interpretation required to reach defendants' elevators.

Reissue Claims.–

The reissue claims in suit were obviously written in the attempt to expand the specific Parker invention into an

all-inclusive generalization. These claims do not identify the elements described in the Parker patent. They do not specify the way in which these elements operate. The claims were written after plaintiff knew of defendants' elevators. They were not intended to define the invention made by Parker, but to expand the Parker patent to read on defendants' elevators. This type of claim has been frequently condemned by the courts.–

> "We think it proper to reiterate our disapprobation of these ingenious attempts to expand a simple invention of a distinct device into an all-embracing claim, calculated by its wide generalizations and ambiguous language to discourage further invention in the same department of industry and to cover antecedent inventions." (*Carlton v. Bokee,* 17 Wall. 463, 21 L. ed. 517, at 519.)

The reissue claims are entirely functional in character. The elements of the claims are defined merely as means for performing certain functions. The elements which constitute such means are not stated. The way in which these elements perform their functions is not defined. It is the well settled rule that claims of this type will be sustained only as limited to the particular form of means described in the patent.–

> "Where some of the parts of a combination operate therein to give motion to other parts, which do the final work of the combination, it is proper to specify the former by the use of such terms as 'means,' 'mechanism,' or 'devices' for giving that motion, except when these terms are applied to an element or part which constitutes the essence of the invention. If they are used under such circumstances the claim will be regarded as functional. But such

general language will not include all means, mechanism, or devices which can perform that function, but only those which are shown in the patent, and their equivalents. And in this case also, the question wtether other means, mechanism, or devices are equivalents of those shown in the patent, will be determined by the established rules on that subject, rather than by any apparent precision or elasticity of the language used in the claims to designate the parts involved in the inquiry."

* * * * * * * *

"A function is not patentable. The structure and not the function is the thing to be secured by the claim. A functional claim is one that has for its subject the performance of an act merely, and not the means by which that act is executed. It is not for a substantive thing, but for the result which that thing accomplishes. A claim for the function of the invention is void. Where a claim distinctly specifies a certain structure which is adapted to perform a particular function, there is no objection in stating in the claim, the function which the structure is adapted to perform, and such recital of function does not invalidate the claims."

(*Walker on Patents,* (6th Ed.), pp. 195, 196.

The functional form of the reissue claims does not give to plaintiff a monopoly of any and every kind of mechanism and devices which may perform the functions specified in the reissue claims. This Court has so held in at least two prior cases.–

"Of course, an inventor cannot by the mere use of the word 'means,' in reference to the accomplishment of a designated function in a combination claim, appropriate any and all kinds of mechanism or devices which may perform the specified function, or

any other mechanism or device than that which is described in the patent or which is its equivalent. Reference must be had to the specifications to ascertain the means which are made an element of the claim and are protected by the patent."

(*American Can Co. v. Hickmott Asparagus Co.,* 142 Fed. 141, 146 – C. C. A. 9 – Judge Gilbert.)

"In arguing in support of the position that no one has obtained the results produced by the Lyndon invention without using that invention as claimed, appellant would have us hold that in claims 3, 4, 6 and 7 the word 'means' or the like, 'is employed to describe connective features of the combination, and that such terms may be considered to cover practically any substitute part or feature.' Proceeding with his argument, appellant says that, the substance of the claim being the combination, such combination is a unit, and that, where the component parts are recited as interrelated through the agency of means, the claim is to be construed as a unit. We find ourselves unable to sustain this argument. To permit a patentee to burden his claims by the use of indefinite language would lead to supporting him in a monopoly of a principle or result, which would bar other inventors from arriving at the same result by different means." (*Henry v. City of Los Angeles,* 255 Fed. 769, 778, – C. C. A. 9 – Judge Hunt.)

Plaintiff relies upon the scope given to a functional type of claim by this Court in *Bake-Rite Mfg. Co. v. Tomlinson et al.,* 16 Fed. (2nd) 556. This Court in that case did not depart from the rule of its prior decisions and did not sanction for this type of claim the scope contended for in this case by plaintiff. This has been pointed out by Circuit Judge Parker for the Fourth Circuit Court of

Appeals in its recent decision in *Demco v. Doughnut Mach. Corporation*, 62 Fed. (2nd) 23. The same patent was before the Court in the latter case that was before this Court in the former. Concerning it Judge Parker says:–

> "We are dealing not with process patents but with patents covering machine. * * * Plaintiff is entitled to protection against machines which substantially copy the machines which they invented, by doing the same thing in substantially the same way, but not against machines which proceed on a different principle, even though they accomplish the same result. It is elementary that the mere function of a machine is not patentable, and that the claims of a patent must be construed in the light of the specifications and drawings to which they relate, and not given an interpretation so broad as to cover the function of the machine patented and thus protect against every possible machine with like function."
>
> * * * * * * * *
>
> "Plaintiff relies upon the case of Bake-Rite Mfg. Co. v. Tomlinson (C. C. A. 9th) 16 Fed. (2d) 556; but the machine there involved was of a very different character from the machines of defendants. Like the machine of Tomlinson, it cooked by the flotation method and the turnover employed might properly be held the equivalent of the Tomlinson turnover. Here the process of cooking is essentially different from that employed by Tomlinson; and, as pointed out above, the turnover employed is not the same thing and is not accomplished in the same way."

In *Randall Control & Hydrometric Corporation v. Elevator Supplies Co.*, 15 Fed. (2d) 767, this Court speci-

fically held that a functional type of claim in a patent in the electric elevator art is not infringed by any and every means for performing the function ascribed in the claim. This Court there held that a functional type of claim in this art is not infringed where the defendant uses a substantially different mechanism and mode of operation, even though the result of the patent is accomplished. Judge Hunt said in that case (pp. 769-70):—

> "We do not agree with the argument that Newell's invention clearly comprehends any means controlled directly or indirectly by the operator for closing the second break in the signal-restoring circuit, and that he merely showed the door means as an illustrative preferred construction. His restoration means are confined by his specifications. Of course, there is manual operation in stopping and starting the car in appellant's construction; but the single switch of the restoration circuit is operated by the master switch, which controls the car movement.
>
> "Nor do we think that the single master switch used by the appellant should be held to be merely the equivalent of Newell's stops on his hatch gate. The results produced by Newell and by appellant are the same, but the mechanism and operation are substantially different, and, in the light of the state of the art when Newell's invention was patented, we think that the rules applicable to strict construction must guide us. Miller v. Eagle Mfg. Co., 151 U. S. 208, 14 S. Ct. 310, 38 L. Ed. 121; McCormick v. Talcott, 20 How. 402, 15 L. Ed. 930; Elevator Supplies Co. v. Boedtcher (C. C. A.) 11 Fed. (2d) 615; Goodyear, etc., Co. v. Davis, 102 U. S. 222, 26 L. Ed. 149."

The reissue claims are obviously not infringed when interpreted in accordance with the foregoing rule. De-

fendants do not employ the mechanism or devices which are described in the Parker patent. The mechanism and devices employed in defendants' elevators are not the equivalents of those described in the Parker patent. The mechanism employed in defendants' elevators operates on a different principle from the mechanism described in the Parker patent. Plaintiff cannot establish infringement merely by the assertion that defendants' elevators and the Parker patent accomplish the same result.

The terms of claim 22 are so broad that this claim reads precisely on many of the prior art patents in evidence. There is nothing in the wording of this claim which distinguishes from the prior patents in evidence. This claim is not limited to an electric elevator system and does not include the primary or secondary control circuits described in the Parker patent. The elements of claim 22 are found in the Strohm patent (Exhibit X-10) as follows:–

> A control system for an elevator car (A) comprising, a plurality of control means (F), one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated, and only one control means for causing the starting of the car (85), said one control means being operable only from within the car.

The elements of claim 22 are found in the Ongley patent (Exhibit X-6) as follows:–

> A control system for an elevator car (B) comprising, a plurality of control means (19), one for each of a plurality of landings, operable from without the car to cause the stopping of the car at the landings for which the control means are operated, and only one

> control means for causing the starting of the car (5 or 6), said one control means being operable only from within the car.

Ongley does not fail to anticipate this claim because he shows additional means for starting the car (10-11). If these hall starting buttons 10-11 were omitted, the stopping of the car by the hall button 19 and the starting of the car by the car button 5 or 6 would not be affected in mode of operation or function performed. It is not an invention to omit an element of a prior patented combination where such omission is attended by a corresponding omission of the function performed by that element, if the elements retained perform the same function.–

> "The novelty, then, must be in the combination, which differs from the combination of an ordinary elevator only in the omission of the storage feature, by which the grain is housed in transit, and its identity lost. While the omission of an element in a combination may constitute invention, if the result of the new combination be the same as before; yet if the omission of an element is attended by a corresponding omission of the function performed by that element, there is no invention, if the elements retained perform the same function as before."
>
> (*Richards v. Chase Elevator Co.,* 159 U. S. 477, 40 L. Ed. 225, at 228.)

The language of claim 29 specifies merely a power-driven car which may be caused to stop at a landing in response to a car-button or a hall-button and which may be started only from within the car. The stopping of a car in response to a car-button or a hall-button is in the alternative. The Parker patent states:–

> "It will be understood, that the invention would include the use of such floor buttons when the car buttons were omitted, if such an arrangement should be desired, and *vice versa.*" (Pat., p. 3, lines 53-56.)

In view of this statement, the claim may be anticipated by a prior patent having push-buttons either at the hall landings or in the car. (*Farnham v. United States,* 47 Ct. Cls. 207.) The stopping of the car from the car-buttons has no functional relation to the stopping of the car from the hall-buttons. The use of both car-buttons and hall-buttons is not a patentable combination, but is a mere aggregation of elements that are functionally indifferent to each other. (*Reckendorfer v. Faber,* 92 U. S. 347, 23 L. ed. 719; *Hailes v. Van Wormer,* 20 Wall. 353, 22 L. ed. 241.)

The elements of claim 29 are found in the Strohm patent (Exhibit X-10) as follows:–

> A control system of the type wherein an elevator car (A) is driven by means of power mechanism (p. 1, lines 20-23), and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car or a switch at the landing (F), characterized by the fact that means (85) are provided only in the car for causing the operation of the power mechanism to start the car.

The elements of claim 29 are found in the Crouan patent (Exhibit X-1) as follows:

> A control system of the type wherein an elevator car (K) is driven by means of power mechanism (L), and wherein the power mechanism is caused to stop the car at a landing in response to the operation

of either a switch (i) within the car or a switch at the landing, characterized by the fact that means are provided only in the car for causing the operation of the car mechanism to start the car (m).

The elements of claim 29 are found in the Nistle patent (Exhibit X-14) as follows:

A control system of the type wherein an elevator car (11) is driven by means of power mechanism ("any well known starting and stopping devices [not shown] controlled by the usual cable 12,"—p. 1, lines 53-55), and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car (17) or a switch at the landing, characterized by the fact that means are provided only in the car for causing the operation of the power mechanism to start the car (15).

Claim 29 reads on the Worthen patent (Exhibit X-15) as follows:

A control system of the type wherein an elevator car (2) is driven by means of power mechanism (hydraulic power in Fig. 15 or electric power in Fig. 17), and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car (the lever 59 corresponding to the landing at which the car is to be stopped) or a switch at the landing, characterized by the fact that means are provided only in the car for causing the operation of the power mechanism to start the car (the lever 59 corresponding to the landing the car is at).

Claim 29 also reads on the Ongley patent (Exhibit X-6) as follows:—

> A control system of the type wherein an elevator car (B) is driven by means of power mechanism ("hydraulic cylinder or other motor by which the car is raised"—p. 1, line 39–) and wherein the power mechanism is caused to stop the car at a landing in response to the operation of either a switch within the car (15) or a switch at the landing (19) characterized by the fact that means are provided only in the car for causing the operation of the power mechanism to start the car (5 or 6).

The language of claim 40 is vague and indefinite, but by referring to the specification the elements of the claim are shown to be the series of up car-buttons and the series of down buttons together with the starting control mechanism and the car-actuating and hoisting mechanism. The claim specifies that one set of stop switches is responsive only when the car is traveling in one direction and the other set of stop switches is responsive only when the car is traveling in the other direction. The hall-buttons in the Parker patent will stop the car irrespective of the direction of motion of the car [R. 449-50; 100-1]. The two sets of stop-switches referred to in this claim must therefore be the up and down car-buttons described in the Parker patent. Defendants' elevators do not infringe this claim because they do not have two sets of car-buttons, one set responsive only when the car is traveling in one direction and the other set responsive only when the car is traveling in the other direction. Defendants' elevators have only one set of car-buttons. These are responsive when the car is traveling in either direction.

The means disclosed in the Parker patent to prevent an up car-button from stopping a down car, and *vice*

versa, is the arrangement of the car-button circuits through the 10-11 and 10′-11′ contacts of the car-switch (Figure 3 of this brief.) The car-button circuits lead through the contacts of the car-switch, hence the up circuits for the car-buttons can only operate when the car is going up, and the down circuits for the car-buttons can only operate when the car is going down. There is no such arrangement or mode of operation in defendants' elevators. The master so found in discussing claim 41 [R. 587]. The means to prevent an up car-button from stopping a down car, and *vice versa,* is positively included as an element in claim 41. The master found that the defendants' elevators do not employ such means or their equivalent. The function performed by these same means is ascribed to the elements in claim 40. The finding of the master that claim 40 is infringed, but that claim 41 is not infringed, demonstrates the fallacy of the master in finding infringement based on a comparison of function only, apart from the means employed.

The elements of claim 40 are found in Strohm (Exhibit X-10) as follows:–

> A control system for an elevator car A comprising a plurality of stop switches (buttons B and C), one for each of a plurality of landings, a plurality of additional stop switches (buttons D and E), one for each of said landings, start control switching mechanism (car switch 85) and car actuating and stopping mechanism (valve 44, rack 43, piston and cylinder 41, 42, valve magnet H, and control magnet f for the up direction, and valve magnet I and control magnet g for the down direction), responsive to the first named stop switches (push buttons B and C) to stop the car at the landings corresponding to said first named stop switches operated only when

> the car is traveling in one direction (buttons B and C will stop the car only when it is traveling in the up direction with the right-hand shoe G retracted and left-hand shoe G capable of engaging switches 29, responsive to said additional stop switches (buttons D and E) to stop the car at the landings corresponding to said additional stop switches operating only when the car is traveling in the other direction (buttons D and E will stop the car only when it is traveling in the down direction with the right-hand shoe G projected and left-hand shoe G retracted), responsive to the start control switching mechanism (car switch 85) to start the car.

The report of the special master found that claim 41 is not infringed [R. 587, 590]. Plaintiff filed no exception to this finding. No contention was made before the district court that claim 41 is infringed [R. p. 549]. This claim is not before this Court on this appeal. (*Riverside Heights Orange Growers' Ass'n v. Stebler,* 240 Fed. 703, at 706 – C. C. A. 9th Cir.)

Claim 65 is similar to claims 40 and 41 in specifying that one set of buttons shall respond only when the car is moving in one direction and that the other set of buttons shall respond only when the car is moving in the other direction. Claim 65 adds a clause, not contained in the other claims, specifying that the buttons function in the manner stated,

> "regardless of the position of the car when the various first named and additional switches are operated or the relative order in which the various first named and additional switches are operated."

The finding of the master, made in connection with claim 41, that the defendants' elevators do not employ any

equivalent for the means of the Parker patent that prevent the up buttons stopping the down car, and *vice versa*, requires a decision that claim 65 is not infringed. The stop-switches (push buttons) referred to in claim 65 are the car-buttons. The hall-buttons in the Parker patent will not respond to the claim. This is illustrated by the testimony of Mr. Doble [R. 456] and is illustrated by Exhibit "Y" (Figure 7 of this brief). Plaintiff's expert Sessions so admits [R. 529]. Defendants' elevators clearly do not infringe claim 65, for the same reason as stated in connection with claims 40 and 41. They do not have a set of up car-buttons responsive only when the car is moving in an up direction and a set of car-buttons responsive only when the car is moving in a down direction.

The elements of claim 65 are found in the Strohm patent (Exhibit X-10) as follows:

> A control system for an elevator car A comprising a plurality of stop switches (buttons B and C on the left-hand side of Fig. 1 of Strohm), one for each of a plurality of landings, a plurality of additional stop switches (buttons D and E on the right-hand side of Fig. 1 of Strohm), one for each of said landings, and means (releasing magnet f) responsive to the first named stop switches (buttons B and C) to stop the car at the landings corresponding to whichever of these buttons is pressed only when the car is traveling in one direction (that is, when the car is moving up and the right-hand shoe G is retracted, the car will stop only in response to buttons B and C) and is responsive to the additional stop switches (buttons D and E) only when the car is traveling

down (that is, when the car is traveling down and the shoe G is retracted, the car will only stop in response to buttons D and E). The buttons B and C will stop the car during the next up trip past these floors irrespective of whether the car was above the floors or below these floors at the time that the buttons B or C were pressed. The buttons once pressed remain in the depressed condition until the car has stopped at the floor and the doors have been opened to admit the passenger who was waiting at that floor. Also, the buttons D and E will stop the car the first time it approaches the corresponding floors in the down direction, and it makes no difference whether the car was above the floors or below these floors at the time these buttons were pressed. In the Strohm patent, the elevator car will stop first at the first floor which it approaches at which a button has been operated, and will then stop at the next floor at which a button has been operated, irrespective of the order in which those buttons were pressed. That is, if the button at the third floor had been pressed first, and then the button had been pressed for the second floor, the car in moving up would stop first at the second floor and then at the third floor. Hence, the car stops at the floors in the natural order in which the car approaches the floors, and not in the order in which these buttons were actuated.

The re-issued claims cannot be held to cover any and every mechanism that might perform the functions

ascribed to the means recited as elements in the claims. We have shown above that this type of claim is restricted by the settled rule to the means described in the patent and their equivalents. We have also shown that the re-issued claims must be restricted to the particular form of means described in the patent, or the claims are invalid in view of the prior art. The master construed all of the re-issued claims in suit to "have no greater scope than claim 3," except claim 22, which he held covered a mere sub-combination [R. 589], saying:–

> "All of the re-issued claims include language which is descriptive of the function of the Parker control and specify 'means' or use other particular language in referring to the structure. It being necessary to refer back to the specifications to determine the exact circuits and mechanism which function as described in the claim, it is found that Claims 29, 39, 40 and 65, with certain functional limitations, read upon the same combination, which is the combination of Claim 3. Claim 41 is narrowed by the addition of other descriptive matter. Claim 22 covers a sub-combination." [R. 573.]

If it is necessary to restrict the scope of the reissued claims to the scope of claim 3, obviously the reissued claims are not infringed if claim 3 is not infringed. The master erred in finding the claims infringed because he misapplied claim 3 to defendants' elevators. We have already shown that claim 3 contains express limitations that do not exist in defendants' elevators and that these limitations cannot be disregarded.

Judge James found no necessity for considering the details of the claims in issue. If the claims are considered specially, none of them are infringed, for the reasons we have stated. It is unnecessary to specially consider the claims, because the defendants' elevators do not embody that substantial identity with the Parker patent which is made essential by the settled law before infringement can be found, irrespective of the form of the claims.–

> "It is no longer necessary to multiply citations to show that claims are to be construed in the light of the contribution to knowledge actually made by the inventor, or that mere ability to fit to a thing the words of a claim does not prove infringement. Let it be assumed that (*e. g.*) the first claim, at least, will 'read on' defendant's system; it remains to inquire whether that (and other) claims, construed consistently with the patentee's actual achievement, justify the finding that there has been that substantial appropriation which is always the essence of the tort known as infringement."
>
> (*Electro-Dynamic Co. v. United States L. & H. Corp.*, 278 Fed. 80, at 84 – C. C. A. 2.)

INTERVENING RIGHTS.

There is a special principle of patent law applicable to re-issue patents which provides that the re-issue claims cannot be asserted against a defendant who enters the field subsequent to the grant of the original patent and prior to the application for the re-issue, assuming, of course, that the claims of the original patent were not broad enough to cover the defendant. This principle is known as the doctrine of "Intervening Rights". This defense is specially pleaded in the answer in this case [R. 18]. It is fully supported in the record.

The original Parker patent was granted August 26, 1924. The application for the re-issue patent in suit was filed on November 13, 1925. Defendants' allegedly infringing elevator system was installed in the No. 4 car of the Petroleum Securities Building and placed in operation on August 4, 1925 [R. 375]. The drawings employed in this installation are dated from April, 1925 to June 18, 1925, and are in evidence as Exhibits S-1 to S-9. DeCamp's report of August 4, 1925, covering the completed test of this installation, is in evidence as Exhibit T. The elevator was independently designed by Messrs. Baruch, DeCamp and Walker of defendant Llewellyn Iron Works without any knowledge of the original Parker patent [R. 127, 138]. Upon completing the elevator design and before making the Petroleum Securities installation, the Llewellyn Iron Works obtained an opinion from its patent counsel that its elevator was clear of patent infringement. Mr. Baruch testifies to obtaining this opinion [R. 128]. Mr. Richard Lyon testifies that on June 26, 1925, he had a conference with Mr. Baruch at which Mr. Baruch showed

him a drawing of the proposed Petroleum Securities installation and requested him to check it against all patents on elevators. He found a reference to the original Parker patent in his office-file and immediately wired to Washington for a copy of the application papers on which the patent was granted. This was received on July 13, 1925 [R. 491, 492]. The drawing of the proposed elevator was delivered with a memorandum. This memorandum is dated June 26, 1925, and is in evidence as Exhibit BB. The letter forwarding the file-history of the original Parker patent from Washington is dated July 8, 1925, and is in evidence as Exhibit Z [R., Vol. 3, p. 410]. From his study of the original Parker patent and its file-wrapper, Mr. Lyon advised the Llewellyn Iron Works that in his opinion its proposed elevator was clear of infringement of the Parker patent [R. 493-4].

> "I explained that it embodied a master switch within the car, which was, I think as I explained it, electrically latched in running position, and was interrupted or was released by the floor selector to stop the car; that it was the apparent intention of the patentee to take a lever type elevator and latch the lever in one position when the car was started, and release it automatically to stop the car. And I pointed out to him how that conception was embodied in the original claims.
>
> "I showed him the push-button arrangement and explained that it was released automatically by setting up a series of buttons in the car and various ones at each landing.
>
> * * * * * * * *
>
> "Mr. Baruch was not very much interested in the patent. He explained to me that as far as the push-

> button end of it was concerned, push-button elevators were old practice and he couldn't see any resemblance in the push-button type and the way that the push-button type was connected in this system, and the investigation was simply dropped at that point."
>
> [R. 501.]

Based on the successful demonstration with the No. 4 car in the Petroleum Securities Building, and in accordance with the opinion of its attorneys that the system involved no patent infringement, the defendant Llewellyn Iron Works secured the contract for installing the allegedly infringing elevators in the new Pacific Finance Building [R. 131]. The drawings for the Pacific Finance elevators are dated October 22, 1925, and are in evidence as Exhibits U-5 to U-15 [R., Vol. 3, pp. 220-230].

The construction of the elevators was started immediately; prior to November 13, 1925, (the date of the application for the re-issue patent in suit,) approximately 800 hours of shop work had been done [R. 384]. The bills for material for this work are in evidence as Exhibits U-1 to U-4 [R., Vol. 3, pp. 212-18]. The time-cards for this work were produced at the trial [R., Vol. 1, p. 391]. The first car in the Pacific Finance Building was completed and turned over to the building for regular operation on March 4, 1926 [R. 277]. This was prior to the date of the grant of the re-issue patent in suit. The installation of the other three cars was carried forward rapidly and the last car turned over to the building and put in regular operation on May 11, 1926 [R. 393].

Prior to the application for the re-issue patent in suit, the plaintiff inspected the No. 4 car in the Petroleum

Securities Building and observed the operation of defendants' elevator. This is established by the testimony of the witnesses Gaylord and Keller. Gaylord was at that time the manager in Los Angeles for the Elevator Supplies Company. That company furnished the signal machines employed in the Petroleum Securities Building. In July of 1925 Mr. Sauter, of the Otis Elevator Company, asked Mr. Gaylord to take him over to see this equipment. Mr. Sauter was accompanied on this inspection by two other representatives of plaintiff, Mr. Keller and Mr. Selenta [R. 423]. Gaylord testified that Sauter wished to see the signal equipment and also wished to see the equipment on the No. 4 elevator [R. 427]. He says they rode up and down in the No. 4 car and observed the operation of the car-buttons [R. 423-4]. They also examined the equipment in the pent-house [R. 428]. He says they showed him the wires leading from the signal machine to the control panel [R. 429]. Mr. Gaylord was a reluctant witness and it was necessary for the defendants to secure his testimony by subpoena. Plaintiff did not deny that it made this inspection at the time testified to by Mr. Gaylord. Mr. Keller was produced as a witness, but neither Mr. Selenta nor Mr. Sauter was produced. Keller admitted they made the visit testified to by Gaylord, and made no substantial contradiction of Gaylord's testimony. He asserted that the automatic slow down and stopping machine was encased in a metal cover [R. 513], but this was shown to be mistaken, by the subsequent testimony of Mr. DeCamp, who produced the original record for the construction of this cover and established that this cover was not made for some months after the inspection of

the elevator by plaintiff's representatives [R. 504-5, 546]. Evidently Keller made more than one visit to inspect the No. 4 car in the Petroleum Securities Building.

The record clearly establishes that defendants' alleged infringing elevators were designed before the application for the re-issue patent in suit. One of these elevators was completed and placed in use before the application for the re-issue was filed. The elevators were placed on sale after the defendant had secured the advice of counsel that it did not infringe the original Parker patent and before the application for the re-issue was filed. The alleged infringing elevators were completed and the first of them installed in the Pacific Finance Building before the grant of the re-issue patent. Because of these Intervening Rights, the re-issue claims cannot be successfully asserted in this case.

The authorities on "Intervening Rights" are reviewed by the Circuit Court of Appeals for the Sixth Circuit in the case of *Ashland Fire Brick Co. v. General Refractories Co.*, 27 Fed. (2d) 744. In that case the original patent was granted July 3, 1923, and the application for re-issue filed July 2, 1924, one year lacking one day after the grant of the original patent. The re-issue made no change in the original patent except to add a single broader claim. On September 24, 1923, the defendant submitted blue prints of its proposed machine to its counsel and on October 5, 1923, was advised by its counsel that the machine involved no infringement of the original patent. The defendant completed construction of a machine on January 1, 1924. Another machine was completed on May 8, 1924. Both were put to immediate

use. For these reasons the court dismissed the bill of complaint, saying (p. 746):—

> "The doctrine of intervening right, as a defense in an infringement case based upon a reissue patent, has never been elaborated by the Supreme Court; its nature and force must be picked out from the various assumptions of its existence and more or less incidental applications of it which that court has made. After a further study, as thorough and careful as we can make, the court as now constituted finds itself satisfied to accept and act upon and to adopt the general line of discussion found in the American-Porter case, and to hold, as we now do, that, because the claims of the original patent were limited as to the form of conveyor, and because after the issue of the original patent and with knowledge of it and expressly appreciating its limited character, indeed, being governed therein by the advice of patent counsel, the defendant built a non-infringing brick machine, and still before the re-issue application another one, at a substantial expense, and put them into commercial use on a large scale by extensively selling their product, and thus made them substantially material to its manufacturing business, the defendant thereby acquired at least a right to continue to use these two machines as if it held a license therefor under the reissued patent." (citing):
>
> "Mahn v. Harwood, 112 U. S. 354, 361, 5 S. Ct. 174, 6 S. Ct. 451, 28 L. Ed. 665; Coon v. Wilson, 113 U. S. 268, 5 S. Ct. 537, 28 L. Ed. 963; Parker Co. v. Yale Co., 123 U. S. 87, 8 S. Ct. 38, 31 L. Ed. 100; Topliff v. Topliff, 145 U. S. 156, 165, 169, 12 S. Ct. 825, 36 L. Ed. 658; Autopiano Co. v. American Co. (C. C. A. 2), 222 F. 276, 282; Keller v. Adams Co. (C. C. A. 9), 287 F. 838; Supreme Co. v. Security Co. (C. C. A. 9), 299 F. 65."

In *Keller v. Adams-Campbell Co.*, 287 Fed. 838, this Court held that the defendant, who, after originating a device and then learning of complainants' patent, submitted its device to attorneys, and on their assurance that it did not infringe, placed it on the market, acquired intervening rights entitling it to protection from a re-issue of the original patent. These intervening rights were held to entitle the defendant to continue in the business of manufacturing and selling after the grant of the re-issue patent. The reasons for this ruling were stated in the opinion of Judge Ross as follows:—

> "The evidence shows that, prior to any knowledge on their part of the Keller patent, the appellees had been working on their device, and had made and sold a few of them, but subsequently learned of and became familiar with the original Keller patent, and before proceeding with the manufacture and sale of their own device, and prior to the making of the application for the reissued Keller patent, they applied to the attorneys who procured the original Keller patent for information as to whether their device was an infringement upon that of Keller, saying that they did not wish to infringe, and, being told that it would not be an infringement, they proceeded with the manufacture and sale of their own on a substantial basis. We therefore think it clear that the appellees had and have such intervening rights as were properly protected by the court below. See Coon v. Wilson, 113 U. S. 268, 5 Sup. Ct. 537, 28 L. Ed. 963; Topliff v. Topliff, 145 U. S. 156, 12 Sup. Ct. 825, 36 L. Ed. 658; Dunham v. Dennison, 154 U. S. 103, 111, 14 Sup. Ct. 986, 38 L. Ed. 924; Auto-Piano Co. v. American Player Action Co., 222 Fed. 276, 138 C. C. A. 38." (p. 841.)

The Supreme Court granted a writ of *certiorari* to review this decision and subsequently dismissed the writ (264 U. S. 314; 68 L. ed. 705). This was because the Supreme Court found that the decision of this Court could be affirmed upon the ground of non-infringement irrespective of the doctrine of intervening rights. Nevertheless, the intervening rights of the defendant was one ground for the decision of this Court, and the rule of intervening rights as there stated remains the law of this Circuit until it is modified or reversed.–

> "Counsel for the petitioner here insists that this statement was not necessary to the decision because the conclusion in that case was clearly made to depend on the non-infringement of the patent and that the reference to sec. 3477 could only be regarded as *obiter dictum.* It does not make a reason given for a conclusion in a case *obiter dictum,* because it is only one of two reason for the same conclusion. It is true that in this case the other reason was more dwelt upon and perhaps it was more fully argued and considered than sec. 3477, but we cannot hold that the use of the section in the opinion is not to be regarded as authority except by directly reversing the decision in that case on that point, which we do not wish to do."
>
> (*Richmond Screw Anchor Co. v. United States,* 275 U. S. 331, 72 L. ed. 303, at 306.)

In *Supreme Mfg. Corp. v. Security Mfg. Co.,* 229 Fed. 65, this Court again ruled that one who has acquired intervening rights between the time of issuance of an original patent and the application for a reissue, cannot be charged with infringement of broader claims of the reissue patent. These intervening rights were held to en-

title the defendant to continue in the business of manufacturing and selling subsequent to the grant of the reissue patent. The reasons given by this Court for its decision are stated in the opinion of Judge Gilbert as follows (p. 68-9) :–

> "The appellant here has intervening rights as against the reissue, for it has acquired the right to manufacture and sell that which Ells failed to claim, and, having expended considerable sums of money in the manufacture of a device at a time when the original Ells patent was as yet unsurrendered, it cannot be held to infringe the added claims of the reissue. Ives v. Sargent, 119 U. S. 652, 7 Sup. Ct. 436, 30 L. Ed. 544; Autopiano Co. v. American Player Action Co., 222 Fed. 276, 138 C. C. A. 38; Diamond Drill Contracting Co. v. Mitchell (C. C. A.), 269 Fed. 261; Keller v. Adams-Campbell Co. (C. C. A.), 287 Fed. 838; Ashley v. Samuel C. Tatum Co. (D. C.), 240 Fed. 979."

In *Wichita Visible Gasoline Pump Co. v. Clear Vision Pump Co.,* 19 Fed. (2d) 435, the Circuit Court of Appeals for the Eighth Circuit held that a re-issue patent, applied for nearly twenty-one months after the issuance of the original patent, after others had perfected and were manufacturing a device that did not infringe the original patent, was invalid. The two leading decisions of the Supreme Court upon the doctrine of intervening rights were referred to in the opinion of the Circuit Court of Appeals as follows (p. 437) :–

> "Thus, in Parker & Whipple Co. v. Yale Clock Co., 123 U. S. 87, 8 S. Ct. 38, 31 L. Ed. 100, there was a delay of only one year and eight months, but it appeared that the improvements not covered by

the original patent had been brought into use by others than the patentee before the issue was applied for. In Coon v. Wilson, 113 U. S. 268, 5 S. Ct. 537, 28 L. Ed. 963, this language occurs:

> "'A reissue was applied for a little over three months after the original patent was granted; but the patentee waited until the defendants produced their device and then applied for such enlarged claims as to embrace (this device) which was not covered by the claim of the original patent; and * * * it (was) apparent, from a comparison of the two patents, that the application for a reissue was made merely to enlarge the scope of the original.'"

In *Bull Dog Floor Clip Co. v. Munson Mfg. Co.,* 19 Fed. (2d) 43, the Circuit Court of Appeals for the Eighth Circuit held that articles which constitute an infringement of a re-issue patent, but not the original, and which were manufactured before the re-issue was granted, may be sold after the grant of the reissue without liability. In that case the original patent was granted June 14, 1921, and the reissue patent granted July 29, 1924. The date of the application for the reissue is not stated. In the summer of 1922 the defendant obtained the opinion of its attorneys and made 50,000 clips which were sold after the grant of the reissue patent. The court held that under these circumstances the defendant had a right to sell the clips after the grant of the reissue.

See, also:

Tropic-Aire, Inc., v. Sears, Roebuck & Co., 44 Fed. (2d) 580, at 593 – (C. C. A. 8th Cir.);

Otis Elevator Co. v. Atlantic Elevator Co., 47 Fed. (2d) 545 (C. C. A. 2nd Cir.);
Moto Meter Gauge & Equipment Co. v. E. A. Laboratories, 55 Fed. (2d) 936, 940.

To escape the defense of Intervening Rights, the master limited the scope of the re-issue claims to the scope of claim 3 of the original patent. The defense of Intervening Rights does not apply where the re-issue claims are no broader than the claims of the original patent. (*Abercrombie & Fitch Co. v. Baldwin,* 245 U. S. 198, 62 L. ed. 240.) Judge James did not pass upon this defense. It need not be passed upon by this Court if the re-issue claims are held to have no broader scope than claim 3 of the original patent. So construed, none of the claims are infringed by defendants' elevators. The Intervening Rights of defendants in this case are important because they preclude any broader scope being accorded to the re-issue claims than can be accorded to claim 3 of the original patent. Plaintiff purchased the original Parker patent on November 12, 1925 [R., Vol. 1, p. 79; Vol. 2, p. 29]. The application for the re-issue was executed on the same day [R., Vol. 3, pp. 3, 22]. The only reason given by plaintiff to Parker when plaintiff requested Parker to execute the reissue application was the desire of plaintiff to secure broader claims [R. 98]. The law requires an application for a re-issue to be accompanied by an oath setting forth the reasons why the original patent is deemed invalid or inoperative. The only reason ascribed in the oath accompanying the application for the re-issue patent in suit is "that the claims are not of sufficient scope adequately and fully to describe the invention made by the deponent to its complete extent and breadth" [R., Vol. 3, p. 22].

THE DISCLAIMER DEFENSE.

The Intentional Delay of Plaintiff in Disclaiming Claim 37 Bars Plaintiff From the Curative Provisions of R. S. U. S. §4917 and §4922, and, Consequently, the Parker Reissue Patent Is Totally Void.

This defense was presented by a Motion to Dismiss [R. 622-627] and is to be determined totally independent of all other issues in the case. It is specially before this Court on the following cross-assignment of error:

> "That the Court erred in denying the motion of defendants to dismiss the bill of complaint herein on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 of said Reissue Letters Patent." [R. 659.]

If this defense is sustained, the Reissue patent in suit must be decreed totally void.

The defense arises out of the fact that no disclaimer of claim 37, found to be invalid in the report of the special master filed February 25, 1930 [R. 569-571, 590], was entered by plaintiff in the United States Patent Office until May 1, 1931 [R. 628-631], although plaintiff had acquiesced in this finding of the master and at no time sought to have the same reviewed. The motion to dismiss on this ground was brought under the authority of the decision of the Supreme Court in *Ensten v. Simon Ascher & Co.*, 282 U. S. 445, 75 L. ed. 453, rendered February 2, 1931. In that case the District Court in Ohio had held claims 1, 3, 4 and 5 of the patent there in suit valid and infringed and claim 2 invalid. The decision of the District Court was rendered on May 24, 1922. An appeal was taken by the defendant from the finding that claims

1, 3, 4 and 5 of the patent were valid and infringed, but plaintiff did not appeal as to claim 2. On April 30, 1924, plaintiff filed disclaimer as to claim 2. In the subsequent suit (which reached the Supreme Court), a motion to dismiss the complaint, on the ground that the patent was void on its face because of this delay in entering the disclaimer, was sustained by the District Court. This decision is affirmed by the Supreme Court in its decision aforesaid rendered February 2, 1931. The opinion of the Supreme Court, written by Mr. Justice McReynolds, specifically holds that such a delay in entering a disclaimer, after the failure to seek a review of the decision holding the claim invalid, was unreasonable neglect and delay within the meaning of §§4917 and 4922 of the Revised Statutes, and that as the patent owner had thus not preserved the right to disclaim the void claim, the entire patent remained permanently invalid. The opinion of the Supreme Court states that prior to the enactment of §§4917 and 4922, a patent containing an invalid claim was wholly void and that such a patent is still wholly void unless the plaintiff complies with the provisions of §§4917 and 4922. The Supreme Court states that a patent owner fails to comply with §§4917 and 4922 of the Revised Statutes if he is guilty of unreasonable neglect or delay in entering a disclaimer in the Patent Office. The failure of a patent owner to promptly enter a disclaimer or to promptly seek to overturn a decision that a patent contains a void claim is held by the Supreme Court to constitute unreasonable neglect and delay. The decision of the Supreme Court expressly states that the provisions of §§4917 and 4922 of the Revised Statutes "were intended to protect only those who by prompt action

either seek to overturn an adverse ruling or retreat from a false position." The opinion of the Supreme Court concludes:

> "Certainly, in this case where an appeal was taken by the defendants, it would have entailed no unreasonable hardship upon the patent owner promptly to have submitted the legality of the rejected claim for determination by the appellate court. The route to that end was obvious, easy, inexpensive. He deliberately failed to defend his assertion of right by appealing. He has been guilty of unreasonable delay and has not brought himself within the beneficent provisions of the statute."

We contend here that the rule announced by the Supreme Court in *Ensten v. Simon Ascher & Co.* applies directly to the failure of the plaintiff in this case to promptly enter a disclaimer of claim 37 following the filing of the report of the special master finding that claim void, inasmuch as the plaintiff made no attempt to have that finding of the special master reviewed or reversed by the district court when the report of the special master was argued and submitted to the court.

The motion to dismiss was denied by Judge James on the ground that the rule in *Ensten v. Simon Ascher & Co.* does not apply unless the delay follows the entry of a decree by the court. We contend that this is not a correct construction of the decision of the Supreme Court, and this is the question to be decided by this Court on this appeal. This question is of importance beyond this immediate case. The decision of Judge James is the first to interpret the ruling of the Supreme Court in *Ensten v. Simon Ascher & Co.* We would regret

any action of this Court which could be taken as directly or by implication approving the interpretation that Judge James has placed upon this decision. We emphasize this because the decree below should be affirmed on the merits irrespective of this particular defense. We ask the Court to go further and specifically indicate whether the interpretation placed by Judge James on the decision of the Supreme Court in the *Ensten* case is or is not approved by this Court.

Plaintiff did not seriously contend before Judge James, and does not seriously contend in its brief before this Court, that it was not guilty of unreasonable neglect and delay in failing to enter a disclaimer of claim 37 from February 25, 1930, (the date that it was advised by the filing of a master's report, that such claim was invalid,) until it entered its disclaimer on May 1, 1931. Plaintiff relies principally upon the contention that Revised Statutes, §§4917 and 4922 do not apply because the ground on which the master found claim 37 invalid did not, plaintiff asserts, render necessary the entry of a disclaimer of that claim. This contention was not accepted or approved by Judge James. It is impossible to sustain plaintiff's contention. It is predicated upon a totally fallacious idea of the effect of an invalid claim in a patent. If plaintiff is correct that §§4917 and 4922 of the Revised Statutes do not apply, then invalid claim 37 could not be removed from the reissue patent in suit by disclaimer and the patent must stand and be held to be permanently void. We shall first discuss plaintiff's contention and thereafter the ground for the decision of Judge James on the motion to dismiss.

Prior to 1837 a patent with an invalid claim was wholly void, and this defect effectually barred any enforcement of such monopoly because the whole grant was invalid.–

> "Under the early accepted general rule a patent with an invalid claim was wholly void, and this defect effectually barred suit upon it."
>
> (*Ensten v. Simon Ascher & Co.*, 282 U. S. 445, 452, 75 L. ed. 453, 456.)

In 1837 a conditional curative statute was passed. This statute appears as *Sections 4917 and 4922 R.S.U.S. (35 USCA Sec's 65 and 71, pp. 443, 613).*

The Facts Here.

(1) The report of the special master found claim 37 invalid.

(2) Said report was filed February 25, 1930.

(3) On March 17, 1930, said finding stood confirmed (*Equity Rule* 66), as plaintiff filed no exception thereto.

Notice of the invalidity of said claim 37 was thus brought home to plaintiff February 25, 1930, and confirmation of such invalidity given March 17, 1930, when such finding became absolute by plaintiff's acquiescence therein. Plaintiff's knowledge of, and formal notice to plaintiff of, such invalidity is thus established as of February 25, 1930.

(4) On October 15, 1930, this cause came on before the district court for hearing on Defendants' Exceptions to the Special Master's Report. Said

Exceptions were then argued and submitted. Plaintiff at said hearing raised no question as to the correctness of the special master's said finding of invalidity of claim 37.

(5) May 1, 1931, plaintiff filed in the U. S. Patent Office a disclaimer of claim 37. No explanation is attempted by plaintiff or shown by the record to excuse the approximately fourteen months intentional neglect and delay in filing such disclaimer.

The Issues of Law Involved.

There are two separate and distinct issues of law to be adjudged:–

First: Plaintiff's assertion that disclaimers may be divided into two classes, "proper" and "necessary", and that no disclaimer was necessary. This assertion ignores the deliberate inclusion of this invalid claim 37 as a part of the patent grant, and the rule of law that the whole grant is void because of the presence, as an integral part thereof, of such void claim.

Second: Plaintiff had knowledge as early as February 25, 1930, that claim 37 was void; the decision of the Special Master is proof of such knowledge; and plaintiff's intentional delay in filing the necessary disclaimer until approximately fourteen months thereafter (May 1, 1931), bars plaintiff from the curative provisions of the disclaimer statute.

First.

Plaintiff urges that no disclaimer was necessary because (as it asserts) said claim 37 was not adjudged invalid for the reason plaintiff claimed "more than that of which he was the original or first inventor or discoverer" or "materially more than that of which he was the first to invent," or "claimed to be the original or first inventor or discoverer of a substantial part of a thing of which he was not the original or first inventor or discoverer," (Plaintiff-Appellant's Brief, p. 171), and that

> "Where a claim has been held invalid for lack of utility or indefiniteness as not complying with Section 4888, R. S., a disclaimer is '*proper*' but not *necessary.*'" (*Idem,* p. 171 – italics plaintiff's.)

We respectfully submit plaintiff's contention is grounded upon a legal fallacy.

Prior to the enactment of the disclaimer statutes (R. S. U. S. 4917 and 4922) in 1837, the whole patent grant was invalid if a claim thereof was invalid. This rule did not depend upon the reason why such claim was invalid. Congress conceived that in exceptional cases this was an unnecessarily harsh rule. But, Congress did not abrogate the rule; it merely provided that in certain classes of cases and under certain specified conditions as to good faith, diligence, etc., the patent invalidity could be cured by disclaiming the invalid claim. But, if the invalidity were grounded upon facts or conditions not within the provisions of such section, then no disclaimer was authorized and the old rule of total invalidity remained in full force and effect. Unless, therefore, a patentee brings himself within the curative provisions of said disclaimer

statutes, if his patent is void in part, then under said well established rule, it still remains totally void.

If, therefore, plaintiff cannot bring itself within the "beneficent provisions of the statute", it necessarily follows it was and is without remedy and the reissue patent admittedly containing a void claim, is wholly void. *What statute authorizes the excision of such void claim, except under the facts and conditions of said Sections 4917 and 4922?* We know of none, and plaintiff refers to none.

If, as plaintiff contends, its patent was not within the provisions of these Sections 4917 and 4922, so authorizing disclaimer, then it necessarily follows its patent is not within the curative provisions thereof, and according to plaintiff's own contention its patent stands "wholly invalid." To avoid the rule of law that a patent with a void claim is wholly void, plaintiff must bring itself within the provisions of some statute authorizing the cure of such invalidity. To contend that its patent is not within Sections 4917 and 4922 is to contend the patent is wholly void. If, therefore, plaintiff can be adjudged correct in its contention that the invalidity of said claim 37 is grounded on facts or legal reasons not within *Sections 4917 and 4922,* plaintiff has demonstrated that its patent was and is wholly invalid and no law existed or exists authorizing a validation of any part thereof.

In *Ensten v. Simon Ascher & Co. (supra)* the Supreme Court (282 U. S. 452) says:–

> "The statute is remedial; the intent is to aid the inventor free from wilful default or intention to mislead the public by permitting him to avoid the consequence of inadvertence, accident or mistake through prompt disavowal of the apparent right to exclude

others from something improperly included in the words of his grant. Escape is permitted only to one who acted originally in good faith and who has complied with the prescribed conditions."

As said by the Supreme Court in *O'Reilly, et al. v. Morse, et al.*, 15 How. 62, 121 14 L. ed. 601, at 626-7:-

"Why, therefore, should he be required and permitted to disclaim in the one case and not in the other? The evil is the same if he claims more than he has invented although no other person has invented it before him. He prevents others from attempting to improve upon the manner and process which he has described in his specification—and may deter the public from using it, even if discovered. He can lawfully claim only what he has invented and described, and if he claims more his patent is void. And the judgment in this case must be against the patentee, unless he is within the Act of Congress which gives the right to disclaim."

As said by this Court in *Carson v. American Smelting & Refining Co.*, 4 Fed. (2d) 463, at 469:-

"In Cartridge Co. v. Cartridge Co., 112 U. S. 624, 642, 5 S. Ct. 475, 485 (28 L. Ed. 828), it was said: 'A disclaimer can be made only when something has been claimed of which the patentee was not the original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented.'"

In *Union Metallic Cartridge Co. v. U. S. Cartridge Co.*, 112 U. S. 624, 28 L. ed. 828, at 834, it is said:-

"A disclaimer can be made only when something has been claimed of which the patentee was not the

> original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented. It is true, that in so disclaiming or limiting a claim, descriptive matter on which the disclaimed claim is based, may, as incidental, be erased, in aid of or as ancillary to the disclaimer. *But the statute expressly limits a disclaimer to a rejection of something before claimed as new or as invented,* when it was not new or invented and which the patentee or his assignee no longer chooses to claim or hold." *(Italics ours.)*

Plaintiff-Appellee's brief cites and quotes *Walker on Patents* (6th Ed.) Section 248, page 334, (Pl'ffs Br., p. 176). Walker says:–

> "There appears to be no warrant in the statute, for disclaiming any claim which is void for want of utility, and for no other cause."

We thus find this statement fully supported by the decisions of the Supreme Court.

But plaintiff-appellee further quotes from this section of *Walker,* and italicizes the following:–

> "*Where a part only of the claims of a patent are void for want of utility,* and for no other cause, the void claims are not injurious to the valid ones, and therefore no disclaimer is needed in any such case."

The text writer cites no authority whatsoever supporting this text. It is in direct contravention of the early established and accepted general rule of law that "a patent with an invalid claim was wholly void."

Plaintiff quotes (Br., p. 172) from *Union Metallic Cartridge Co. v. U. S. Cartridge Co.,* 112 U. S. 624, assert-

ing such opinion as "laying down the rule as to when disclaimers *are necessary.*" We respectfully submit plaintiff misconstrues such opinion. The Supreme Court does not therein distinguish (as plaintiff so attempts) between disclaimers as "proper" or "necessary" or otherwise. On the contrary, the Supreme Court points out by whom and when a disclaimer is *authorized* and states, "But the statute expressly limits a disclaimer," etc. Thus, again there is emphasized plaintiff's error in ignoring the established rule that "a patent with an invalid claim was wholly void." Plaintiff's Brief either overlooks or fails to comprehend this rule of law to which the disclaimer statute (Sections 4917 and 4922) is a limited exception. Any disclaimer, to exercise a void claim, is a necessary disclaimer and must be authorized by Sections 4917 and 4922.

Plaintiff's Brief repeatedly refers to Sections 4917 and 4922 as "requiring" a disclaimer. It is the failure to appreciate and apply the distinction between a law requiring an affirmative act in order to preserve or maintain an existing right, and a remedial statute authorizing a curative act, (i. e., a disclaimer, under certain limited conditions and circumstances), to operate to validate an otherwise totally invalid grant, that lies at the very root of plaintiff's argument. This is again illustrated by plaintiff's reference (Br., p. 174) to the decision in *Sachs v. Hartford Electric Supply Co.,* 47 Fed. (2d) 743. In that case the Court of Appeals, Second Circuit, said (1st col., p. 746):–

> "We doubt that the disclaimers were necessary at all;",

and (col. 1, p. 747):–

> "However, we do not see that these limitations were in any sense necessary to escape the prior art. A disclaimer is to abandon some part of the invention of which the patentee is not 'the first and original inventor.' If he has claimed originally too much, so that the claims are invalid under the prior art, the part disclaimed must be clearly separate in the body of the specifications; if he wishes to recast the whole, he must go to a reissue. But there is no objection to his limiting a valid patent as his fears may dictate; that does not make valid what would be invalid without it. It is a timorous retreat from positions which he could have successfully maintained. We can therefore disregard all of the disclaimer except so much as was necessary to limit claim fourteen, and so much was valid."

It is thus seen that said Court of Appeals, except as to claim 14, found that there was no invalidity requiring excision by disclaimer. As to claim 14, said Court found the disclaimer was within and authorized by the statute. But said Court of Appeals in said decision did not state that a patent containing a void claim was not wholly invalid in the absence of a disclaimer of such void claim, authorized by statute. Said Court of Appeals did not state that, in the sense in which plaintiff uses the term, there were "proper" as distinguished from "necessary" disclaimers or that any invalidity could be cured by a disclaimer not authorized by Sections 4917 and 4922.

Nor does the citation (Pl'ffs. Br., p. 175) of Section 652 (Vol. II., p. 293) of *Robinson on Patents* justify plaintiff's contention. Nowhere does Robinson use therein the term "proper" or "necessary." Robinson there says that:–

"A disclaimer filed without sufficient cause is a nullity under this as well as the former section of the act."

This is a mere statement that, if there is no necessity for a disclaimer, no invalidity to be cured, then there is nothing upon which Sections 4917 and 4922 operate.

It is to be noted that plaintiff cites no authority to its illustration (Br., p. 175):–

"When a claim has been held invalid, even in a final decree, solely for lack of utility or solely because it is indefinite, and does not comply with section 4888, R.S., no disclaimer is necessary or required, but in such a case a disclaimer may properly be filed if and whenever the patentee so elects. The remaining claims are affected only where a disclaimer was *necessary.*"

This is directly contrary to the established rule that "a patent with an invalid claim was wholly void."

It is necessary in this connection to bear in mind that each separate claim of the patent is in effect a separate patent.–

"As the claims are the measure of the monopoly created by the patent, they are the most vital part of the specification. The statute (R.S.U.S. 4888) prescribes that the applicant 'shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention.'

"As elsewhere stated, each claim in reality is a patent in itself."

(*Hopkins on Patents,* Section 62, p. 119,– citing: *Pope Mfg. Co. v. Gormully and Jeffrey Mfg. Co.,* 34 Fed. 893.)

See also:

United Nickel Co. v. California Elec. Works, 25 Fed. 475;

Celluloid Mfg. Co. v. Zylonite Brush and Comb Co., 27 Fed. 291, 294;

Hopkins on Patents, Section 119, p. 200.

As said by this Court in *Henry v. City of Los Angeles,* 255 Fed. 769, at 780:–

> "As has been very recently said by the Supreme Court, referring to the claims of a patent:
>
> " 'These so mark where the progress claimed by the patent begins and where it ends that they have been aptly likened to the description in a deed, which sets the bounds to the grant which it contains. It is to the claims of every patent, therefore, that we must turn when we are seeking to determine what the invention is, the exclusive use of which is given to the inventor by the grant provided for by the statute; 'he can claim nothing beyond them.' Motion Picture Patents Co. v. Universal Film Mfg. Co. et al., 243 U. S. 502, 510, 37 Sup. Ct. 416, 418, 61 L. Ed. 871, L. R. A. 1917E, 1187, Ann. Cas. 1918A, 959.'
>
> "The court cited the Paper Bag Case, 210 U. S. 405, 28 Sup. Ct. 748, 52 L. Ed. 1122."

The claim is the operative part of a patent. The Statute (R.S.U.S. 4888) requires the patentee to "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery." Each claim is a legal assertion of a patentable "part, improvement, or combination." Any void claim is a claim of more than that of which the patentee "was the original or first inventor or discoverer" within the meaning and scope

of Sections 4917 and 4922, and any such void claim may be disclaimed and the patent invalidity cured, *if the other requirements are met.* (*O'Reilly v. Morse,* 15 How. 62, 121 (*supra*)).

Justice (then Circuit Judge) Blatchford, in *Schillinger v. Gunther,* Fed. Cas. 12,458, says:–

> "It is true, that, strictly, section 4917 contemplates only a disclaimer of some claim, or part of a claim, but, in connection with a disclaimer of a claim, or of a part of a claim, it is not improper to eliminate or withdraw, by the same writing, the parts of the body of the specification on which the disclaimed claim, or part of a claim, is founded."

Plaintiff's Brief (p. 177) asserts that in *National Electric Sig. Co. v. De Forest Wireless Telegraph Co.,* 140 Fed. 449, Judge Wheeler distinguished between necessary and proper disclaimers, and quotes from the opinion upon the settlement of decree in that case. But plaintiff's brief fails to point out to this Court that the validity of the other claims, as to which the court (in plaintiff's quotation) said, "The doubt about those in question not held to be valid arises," etc., was not passed upon by the court. The court did not hold such other claims or any of them invalid. On the contrary, the court says (p. 455):–

> "The sixth claim seems to be only for the nitric acid as new, which probably cannot be upheld, and the third, twenty-fourth, twenty-sixth, and twenty-eighth are so general as to leave their validity and application doubtful, and *they are not now passed upon.*" (Italics ours.)

The meaning of Judge Wheeler's opinion on settlement of the decree is obviously that it was not a requisite duty of the court to determine the validity of such claims *not therein passed upon* in order to determine whether disclaimer was requisite to validate the patent. There is no showing in Judge Wheeler's opinion that any court had ever held such claims invalid. Obviously, the opinion, which states that "they are not now passed upon," is far from an adjudication that said claims or any one of them were void.

Plaintiff cites (Br., p. 178) *Marconi Wireless Telegraph Co. v. DeForest Radio Telephone & Telegraph Co.*, 243 Fed. 560. The question in that case was not whether a void claim must be disclaimed to cure the invalidity of the patent. No "claim" was disclaimed. This is made clear by completing the partial quotation in plaintiff's brief:–

> "The contention that Fleming's patent, whatever its original merit or lack thereof, was voided by an unlawful disclaimer, is without substance. The mistake (if there was one) was in claiming something not needed, and the disclaimer abandoned what was not wanted, without broadening or enlarging any claim; it also left the claims fully supported by the original specification. No injury to defendant, or any one else, is shown. The procedure is within Carnegie Steel Co. v. Cambria Iron Co., 185 U. S. 403, 22 Sup. Ct. 698, 46 L. Ed. 968, and our former decisions in Simplex, etc., Co. v. Pressed Steel Co., 189 Fed. 70, 110 C. C. A. 634, and Strause, etc., Co. v. Crane Co., 235 Fed. at page 129, 148 C. C. A. 620."

It is to be noted that the court says that the disclaimer there under consideration did not affect any claim of the patent. It did not disclaim any claim of the patent, but was "without broadening or enlarging any claim." This decision supports defendants' position that no disclaimer is authorized except one which measures up to and satisfies the requirements of Sections 4917 and 4922.

At p. 178 of Plaintiff-Appellee's Brief it is stated that:–

> "The courts have repeatedly refused to insist on disclaimers even where the evidence shows that claims *not in suit* were invalid in view of the prior art.",

and cite, as an example thereof, *Whitney v. Boston & A. R. Co.,* 50 Fed. 72. In that case reference as authority is made to *American Bell Telephone Co. v. Spencer,* 8 Fed. 509, 512, wherein the trial court says:

> "The statute declares that if a patentee has claimed too much in any part of his patent he shall not recover costs, and it has been argued that certain claims of these patents, not relied on by the plaintiffs, are too broad. In this stage of the case the question of costs does not arise; but I may as well say that there is not sufficient evidence in the record to enable me to find whether these claims are valid or not, and that the statute does not mean that claims not in issue should be contested for the mere purpose of settling the costs."

In *Whitney v. Boston & A. R. Co.,* the court cites *Manufacturing Co. v. Sprague,* 123 U. S. 249. But such decision has nothing whatever to do with the disclaimer statute. It is a decision as to what constitutes experimental use as distinguished from public use for profit.

Infringement of claim 37 was charged in the case at bar [R. 51]. Its validity was denied by defendants-appellees. It was in issue. Therefore, the decisions in *Whitney v. Boston & A. R. Co.,* and *National Electric Sig. Co. v. DeForest Wireless Telegraph Co.* have no bearing upon the issue here to be determined. The re-issue patent-in-suit included void claim 37. The whole grant was therefore invalid. If the invalidity could be obviated or cured, it could only be by application of and in accord with, and under the conditions of, the curative statute. If authorized by such law, disclaimer of the void part was "necessary." In fact, indispensable to any validity to the patent. Consideration of plaintiff's assertions demonstrates plaintiff's double error:–

(1) If the curative statute does not apply, the whole patent was and still is irremediably void, and

(2) If such statute applied, disclaimer was imperative and necessary, and to be effective must have been filed in accord with and justified by the provision of said *Sections 4917 and 4922.*

Second.

February 25, 1930, knowledge of the invalidity of claim 37 was brought home to plaintiff by the filing of the Special Master's report. Such finding was confirmed *(Equity Rule 66)* March 17, 1930, as plaintiff elected to accept as final such finding and did not seek a review thereof by excepting thereto. Furthermore, plaintiff's intentional delay is emphasized by the fact that Defendants' Exceptions to the Master's Report were argued before Judge James October 15, 1930. In this connection we call particular attention to the Transcript

of Record, Vol. 1, p. 549, from which it appears that in its printed brief before Judge James on Defendants' Exceptions to the Master's Report, plaintiff stated:–

> "The plaintiff took no exceptions to the Master's final report.
>
> "This cause, therefore, is before this court solely on the one hundred and twenty-five exceptions to the Master's report filed by the defendants. (p. 3.)
>
> "The issues simply stated are whether the Master was right in holding—
>
> "(1) That claims 3, 22, 29, 40, 41 and 65 of the Parker patent are good and valid; and
>
> "(2) That claims 3, 22, 29, 40 and 65 of the Parker patent are infringed by the defendants. (p. 5.)"

It appears from R. 549 that in the conclusion to its said brief plaintiff urged only that the master's report be confirmed. No question was raised by plaintiff as to the correctness of the ruling of the special master as to the invalidity of claim 37 of the patent in suit. At p. 21 of its brief plaintiff stated:–

> "The defendants only as (are) questioning the Master's report, * * *." [R. 550.]

Plaintiff stood on the Master's Report, but did not disclaim claim 37 until May 1, 1931. Plaintiff deliberately delayed disclaiming over one year and two months after notice of the adjudgment of claim 37 void, and one year, one month and fourteen days after such finding was confirmed, and six months and thirteen days after the said argument and submission of Defendants' Exceptions. Plaintiff "deliberately failed to defend his assertion of right by appealing. He has been guilty of unreasonable

delay and has not brought himself within the beneficent provisions of the statute." (Conclusion of opinion, in *Ensten v. Simon Ascher & Co., supra.*)

> "When the patent has once passed through all the courts then available, the statute should have its effect; else the putatively invalid claims may remain as scare-crows, preserved against the bare possibility that at some future time they may come to life." (*R. H. Hoe & Co. v. Goss Printing Press Co.*, 31 Fed. (2d) 565, 566, C. C. A. 2.)

Plaintiff's whole argument is based upon what it might have done but did not do. Plaintiff might have excepted to the Master's said finding, but elected not to so do. Plaintiff asserts (Br., p. 183) that it might "have raised and argued, without taking an exception, the legal conclusion as to whether claim 37 was valid," but, as the record shows, plaintiff elected not to so do.

In the *Ensten* case, plaintiff could have appealed from the finding of invalidity of claim 2, but elected not so to do. The Supreme Court held this was deliberate action. There plaintiff "deliberately failed to defend his asser tion of right" (282 U. S. 458). Here plaintiff "deliberately failed to defend his (its) assertion of right" and the test is not what right it might have had, but its deliberate election to not avail itself of any right of review,—the acquiescence in the said finding of invalidity. Even if it be granted for the sake of argument that such finding was reviewable without exception thereto, like in the Ensten case plaintiff here never sought a review thereof. "The route to that end was obvious, easy, inexpensive." (282 U. S. 458.) The fact that when the case came on before Judge James, seven months and

eighteen days later, plaintiff deliberately refrained from then "defend(ing) his assertion of right", conclusively stamps plaintiff's acquiescence in said finding as deliberate and intentional as of the date of such finding. Whatever plaintiff *might* have done, the fact is plaintiff did accept the Master's finding as final. The specific question reviewed in the Ensten case was whether deliberate delay and neglect existed where plaintiff had a right of review, of which it did not avail itself. The Supreme Court held plaintiff's failure to avail itself of its right of review was deliberate. The Supreme Court quoted (282 U. S. 453) from *2 Robinson, Patents,* p. 284:–

> " 'Unreasonable delay in disclaiming is thus tantamount to an original fraudulent claim, and through it the patentee loses the privilege of making the amendment by which alone his patent could be saved. The question of unreasonable delay is a question for the court, upon the facts as found either by its own investigation or the verdict of a jury. *Delay begins whenever the patentee becomes aware* that he has claimed more than he has invented or described.' " (Italics ours.)

Plaintiff became aware upon the rendition of the Master's Report that by its patent it "claimed more than he (Parker) has invented or described." This does not require argument. The Master's Report found claim 37 void. Plaintiff accepted such finding as a final disposition of the issue of said claim's invalidity. There were no further proceedings or consideration of the validity of said claim 37. And plaintiff sought none. We respectfully submit, therefore, that plaintiff's delay in filing disclaimer of claim 37 began with plaintiff's becoming

aware of its invalidity by the filing of the Master's Report; and that, in accord with the *Ensten* decision, as plaintiff "deliberately failed to defend his assertion of right by appealing," plaintiff "has been guilty of unreasonable delay and has not brought himself within the beneficent provisions of the statute."

> "But for the benign provisions of the statute, such an assertion would invalidate the whole patent; and these provisions were intended to protect only those who by prompt action either seek to overturn an adverse ruling or retreat from a false position."
>
> (*Ensten v. Simon Ascher & Co.*, 282 U. S. 445, 455.)

Under the rule of the *Ensten* case, *"delay begins whenever the patentee becomes aware* that he has claimed more than he has invented or described," and failure "to defend his assertion of right by appealing" is to be construed as deliberate delay, where by judicial decision notice of the invalidity is brought to the patent owner. Plaintiff here was charged with notice as of February 25, 1930, by the filing of the Master's Report, and its delay of approximately fourteen months to disclaim is under said rule intentional delay or neglect and convicts plaintiff of "unreasonable delay" under the disclaimer statute. Plaintiff cannot, therefore, bring itself within the beneficent provisions of said statute and the re-issue patent in suit remains totally void.

Under this *Statute* and the *Ensten* decision, the patentee must promptly disclaim after he becomes aware of the invalidity. The Statute does not require a court *decree* of invalidity. Whenever the patentee becomes aware of the necessity for disclaimer, prompt action is

required. There can be no dispute here as to when plaintiff knew of such necessity. Plaintiff's own actions demonstrate it was convinced of such invalidity. The decision of a judicial tribunal is evidence that at least as early as such decision the patentee had such knowledge, and the patentee becomes chargeable with notice and is obligated to act promptly if he is to bring himself within the curative provisions of the statute. The *Ensten* decision requires him to act promptly in the exercise of any right of review *or* to disclaim promptly. Here plaintiff, instead of seeking review of the master's finding, acquiesced therein and never sought a review thereof. "The route to that end was obvious, easy, inexpensive." (*Ensten case,* 282 U. S. 458.)

We respectfully submit that the record proves plaintiff was aware of the total invalidity of the re-issue, notice thereof being proven by the Master's Report, and that plaintiff's deliberate failure to promptly disclaim bars plaintiff asserting it has brought itself within the curative provisions of the Statute. As said by Judge Westenhaver, in *Ensten v. Rich-Sampliner Co.,* 13 Fed. (2d) 132, 135:

> "After learning that his patent in its present form is invalid as an entirety, he is not at liberty thereafter to play fast and loose with the question of whether he will disclaim or not disclaim."

We respectfully submit that Judge James misunderstood this disclaimer statute and that his decision is based upon a fundamental error. He says:

> "It would seem that where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim." [R. 633.]

We can find no decision supporting such interpretation. Judge James refers to none. Plaintiff refers to none.

In the *Ensten case* the Supreme Court overrules the patent owner's contention that he had a right to await a final decree and appeal therefrom.–

> "The petitioners say that after Judge Westenhaver by interlocutory decree declared claim 2 invalid the patentee had several options. He might have made disclaimer immediately; he might have appealed from the interlocutory decree within thirty days; he might have awaited the final decree and appealed from that; he might have sued again in another circuit and prosecuted such suit to final decree. Accordingly, they maintain that the delay which actually occurred cannot be declared unreasonable.
>
> "Under this view, a patentee having procured allowance of an invalid claim may hold it in the face of the public for years (here nearly two years) with large possible advantage to himself and much injury to others. By the assertion of his apparent monopoly he may deter others from legitimate action and seriously prejudice the public. See Miller v. Bridgeport Brass Co., 104 U. S. 350, 355, 26 L. Ed. 783, 785." (282 U. S. 453; 75 L. Ed. 457.)
>
> "In certain definitely defined circumstances and to the end that the mistaken but honest inventor may obtain relief from the old rule, the disclaimer provisions permit him to deprive the public temporarily of complete freedom from the assertion of a monopoly apparently valid, but not so in fact. When a competent court has declared his pretensions without sufficient foundation, we think good faith and the spirit of the enactment demand that he act with such

> promptness as the circumstances permit either to vindicate his position or to relieve the public from further evil effects of his false assertion. But for the benign provisions of the statute, such an assertion would invalidate the whole patent; and these provisions were intended to protect only those who by prompt action either seek to overturn an adverse ruling or retreat from a false position."
>
> (282 U. S. 455; 75 L. Ed. 457-8.)

The Supreme Court refers to and overrules (282 U. S. 457) the decision of the Circuit Court of Appeals, Seventh Circuit, in *Excelsior Steel Furnace Co. v. F. Meyer & Bro. Co.*, 36 Fed. (2d) 449. It was the conflict of this last referred to decision with the decision of the Circuit Court of Appeals, Second Circuit, in the *Ensten* case, which induced the grant of certiorari in the Supreme Court (282 U. S. 449). The Supreme Court states the question before it:–

> "Did the Patentee Ensten unreasonably neglect or delay to make disclaimer of claim 2 after May 24, 1922, when the district court in Ohio declared it invalid? He disclaimed April 30, 1924; and only the facts narrated above are relied on for explanation or excuse." (282 U. S. 452; 75 L. ed. 456.)

It is enlightening to observe that the Supreme Court says "*declared* it invalid" and not "*decreed* it invalid". The overruled contention was that a final decree of invalidity was required and that the plaintiff had a right to wait and appeal from such a final decree. The Supreme Court repeats this distinction. It says (282 U. S. 455):–

> "When a competent court has *declared* his pretensions without sufficient foundation,"

and quotes with approval (p. 452) 2 *Robinson on Patents,* p. 284:–

> " 'The same principle which forbids a patentee to assert a right to more than he has actually invented compels him to disavow the right as soon as he discovers that it has been unjustly claimed. Unreasonable delay in disclaiming is thus tantamount to an original fraudulent claim, and through it the patentee loses the privilege of making the amendment by which alone his patent could be saved. The question of unreasonable delay is a question for the court, upon the facts as found either by its own investigation or the verdict of a jury. Delay begins whenever the patentee becomes aware that he has claimed more than he has invented or described. In cases where the excess is not apparent at once upon the inspection of the patent by the patentee, the allowance of his claim by the Patent Office raises such a presumption in its favor that he may rely on its validity until a court of competent jurisdiction *decides* that it is broader than his real invention.' "
>
> (282 U. S. 452-3; 75 L. ed. 456-7.)

In the text so cited with approval, *Robinson* points out that disclaimer is required "as soon as he *discovers* that it has been unjustly claimed." and states that in cases where the invalidity is unknown to the patentee the grant of the claim by the Patent Office raises such a presumption that the patentee is justified in relying upon validity until a court of competent jurisdiction *"decides"* (not decrees) the claim is broader than his real invention. And the Supreme Court says disclaimer is required at least as soon as a competent court has *declared* his pretensions without sufficient foundation. Neither the text-writer nor the Supreme Court requires or refers to a formal decree

nor a final decree. The principle involved is that the disclaimer statute requires excision of the invalid claim as soon as the patentee is aware of the invalidity. A decision of a competent court is evidence of such knowledge. Consideration of *Section 4917* is enlightening.–

> "Whenever, through inadvertence, accident or mistake, and without fraudulent or deceptive intention,".

Section 4922 differs slightly.–

> "Whenever, through inadvertence, accident, or mistake, and without any wilful default or intent to defraud or mislead the public,".

Obviously, a patentee cannot possess knowledge of the invalidity of one of his patent claims, and knowingly retain such void claim in his patent, "without fraudulent or deceptive intention" or "without any wilful default or intent to defraud or mislead the public" as to his patent monopoly.

> "Unreasonable delay in disclaiming is thus tantamount to an original fraudulent claim."
>
> (*Robinson, Patents,* as quoted in Ensten case, 282 U. S. at p. 453.)

The early established rule was that a patentee had a right to insist upon the validity of a claim and not disclaim it until the highest court to which it could be carried had passed upon it. (*Seymour v. McCormick,* 60 U. S. 96, 15 L. ed. 557; *Gage v. Herring,* 107 U. S. 640, 27 L. ed. 601.) Decisions of the United States Circuit Courts of Appeals being subject to review on certiorari, it therefore became the rule for such court to require either a disclaimer within thirty days after the expiration of the time for petition for certiorari or, if such petition were filed,

within thirty days after denial (if denied). *R. Hoe & Co. v. Goss Printing Press Co.,* 31 Fed. (2d) 565 (C. C. A. 2nd Cir.). The *Ensten Case* originated in the decision by Judge Westenhaver in *Ensten v. Rich-Sampliner Co.,* 13 Fed. (2) 132. Judge Westenhaver held that claim 2 was invalid. By reference to his opinion we find that the grounds of such invalidity as stated by him were that such claim was not sufficiently limited and did not define the invention that the man had made. This is exactly comparable to the master's reasons for holding claim 37 of the re-issue patent-in-suit to be invalid. At p. 135 of 13 Fed. (2d) Judge Westenhaver says:–

> "Is the patentee then entitled to refrain from exercising promptly his right of review? May he reserve his decision, as to whether he will do so or not, during a period of years, insisting in the meantime on his patent as an entirety? * * * It has never been held or intimated that a patentee is not charged with a duty of acting promptly in making disclaimer after a claim is held invalid, or after he discovers that he has included in his claims something of which he was not the first or original inventor or discoverer. It seems to me that it is now incumbent upon him to determine promptly whether he will disclaim or appeal.
>
> "It has been frequently held that mere knowledge of the invalidating prior art does not put upon him the duty of disclaiming, if he might in good faith regard his patent as valid, notwithstanding that art. In cases in which his claims have been allowed, and the lower courts have sustained their validity, it has been held that it was not negligence or unreasonable delay to refrain from making disclaimer until the reviewing court had passed thereon. See O'Reilly v.

Morse, 15 How. 120, 14 L. Ed. 601; Seymour v. McCormick, 19 How. 106, 15 L. Ed. 557; Gage v. Herring, 107 U. S. 646, 2 S. Ct. 819, 27 L. Ed. 601. This is not, however, to say that, after having been advised by a court of competent jurisdiction that this prior art does in fact invalidate certain claims, he may refrain from prosecuting an appeal therefrom within the time authorized by law. * * * In Herman v. Youngstown, it was said: 'The patent as an entity is therefore invalid in its present form.' After learning that his patent in its present form is invalid as an entirety, he is not at liberty thereafter to play fast and loose with the question of whether he will disclaim or not disclaim."

See, also:

Ensten v. Simon Ascher & Co., Inc., 38 Fed. (2d) 71 (C. C. A. 2nd. Cir.).

Plaintiff's Brief (p. 177) states:—

"If the Master was right in concluding that claim 37 of the Parker patent is indefinite and incomplete and failed to comply with Section 4888, then it never was a claim which covered an invention. It merely amounted to a paragraph of immaterial reading matter, which need not, but may be disclaimed."

The 8th claim in *O'Reilly v. Morse* "never was a claim which covered an invention", yet the Supreme Court held that unless the patent was validated by a disclaimer of said claim the patent remained totally void. In *Wyeth v. Stone*, Federal Case 18,107, Justice Story held the claim did not cover an invention but merely an abstract principle. In *Herman v. Youngstown Car Mfg. Co.*, 191 Fed. 579 (C. C. A. 6), it was held that claims 16, 17, 18 did not

cover an invention and that the patent "in its present form" was totally invalid but could be validated by disclaimer. In the case at bar the plaintiff declared upon void claim 37 and insisted that it was infringed. There is no substantive reason differentiating claim 37 from the holdings of these decisions.

This established rule, that a patent with an invalid claim is wholly void, is entirely independent of all consideration of the other portions of the patent. The presence of a void claim determines its total invalidity. The principle is that a grant which is void in part is wholly void. Validation by disclaiming the void claim is possible only under the terms, conditions and provisions of Sections 4917 and 4922. In considering and applying this general rule, it is a moot question whether in the absence of such void claim from the patent the patent would be valid or would adequately protect the invention and the patentee. Under this general rule, the reissue patent was wholly void and could be validated only by plaintiff bringing its patent within the provisions of said disclaimer statute.

Plaintiff's argument (Br., p. 177) that claim 37 under the master's construction "never was a claim which covered an invention" is outside the principle of law under discussion. Claim 37 existed in the reissue patent. It was was one of the claims declared upon. Until the master found said claim void, plaintiff insisted upon its validity and that it was infringed by defendant. The cases abound in which one or more of the claims of a patent are held void and yet other claims are held valid and infringed, and in which the invalidity has been cured by disclaimer.

In *O'Reilly v. Morse,* 15 Howard, p. 62, 120; 14 L. Ed. 601, 626, it is said:

"It has been urged, on the part of the complainants, that there is no necessity for a disclaimer in a case of this kind. That it is required in those cases only in which the party commits an error in fact, in claiming something which was known before, and of which he was not the first discoverer; that in this case he was the first to discover that the motive power of electro-magnetism might be used to write at a distance; and that his error, if any, was a mistake in law, in supposing his invention, as described in his specification, authorized this broad claim of exclusive privilege; and that the claim therefore may be regarded as a nullity, and allowed to stand in the patent without a disclaimer, and without affecting the validity of the patent.

"This distinction can hardly be maintained. The Act of Congress above recited, requires that the invention shall be so described, that a person skilled in the science to which it appertains, or with which it is most nearly connected, shall be able to construct the improvement from the description given by the inventor.

"Now, in this case, there is no description but one, of a process by which signs or letters may be printed at a distance. And yet he claims the exclusive right to any other mode and any other process, although not described by him, by which the end can be accomplished, if electro-magnetism is used as the motive power. That is to say, he claims a patent for an effect produced by the use of electro-magnetism distinct from the process or machinery necessary to produce it. The words of the Acts of Congress above

quoted show that no patent can lawfully issue upon such a claim. For he claims what he has not described in the manner required by law. And a patent for such a claim is as strongly forbidden by the Act of Congress, as if some other person had invented it before him.

"Why, therefore, should he be required and permitted to disclaim in the one case and not in the other? The evil is the same if he claims more than he has invented, although no other person has invented it before him. He prevents others from attempting to improve upon the manner and process which he has described in his specification—and may deter the public from using it, even if discovered. He can lawfully claim only what he has invented and described, and if he claims more his patent is void. And the judgment in this case must be against the patentee, unless he is within the Act of Congress which gives the right to disclaim.

"The law which requires and permits him to disclaim, is not penal but remedial. It is intended for the protection of the patentee as well as the public, and ought not, therefore, to receive a construction that would restrict its operation within narrower limits than its words fairly import. It provides 'that when any patentee shall have in his specification claimed to be the first and original inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just claim to the same,' he must disclaim in order to protect so much of the claim as is legally patented.

"Whether, therefore, the patent is illegal in part because he claims more than he has sufficiently described, or more than he invented, he must in either case disclaim, in order to save the portion to which he is entitled; and he is allowed to do so when the error was committed by mistake.

"A different construction would be unjust to the public, as well as to the patentee, and defeat the manifest object of the law, and produce the very evil against which it intended to guard."

Circuit Justice Story, in *Wyeth v. Stone,* Federal Case No. 18,107, says:

"This leads me to say, that I cannot but consider, that the claim made in the patent for the abstract principle or art of cutting ice by means of an apparatus worked by any other power than human, is a claim founded in inadvertence and mistake of the law, and without any wilful default or intent to defraud or mislead the public, within the proviso of the ninth section. That section, it appears to me, was intended to cover inadvertences and mistakes of the law, as well as inadvertences and mistakes of fact; and, therefore, without any disclaimer, the plaintiffs might avail themselves of this part of the section to the extent of maintaining the present suit for the other parts of the invention claimed, that is, for the saw and for the cutter, and thereby protect themselves against any violation of their rights, unless there has been an unreasonable neglect or delay to file the disclaimer in the office. * * * and

> if the court should grant a perpetual injunction before any disclaimer is filed, it may be, that the patentee may never afterwards, within a reasonable time, file any disclaimer, although the act certainly contemplates the neglect or delay to do so to be a good defense both at law and in equity, in every suit, brought upon the patent, to secure the rights granted thereby."

In *Herman v. Youngstown Car Mfg. Co.,* 191 Fed. 579, the Circuit Court of Appeals, Sixth Circuit, held claims 16 and 17 of the patent invalid for lack of invention and claim 18 invalid because there was no disclosure sufficient to support the claim, and held:

> "Claims 16, 17, and 18 of this patent having been found invalid, the patent as an entity is therefore invalid in its present form,"

and required a disclaimer within thirty days of filing its mandate.

In *Fairbanks, Morse & Co. v. Stickney,* 123 Fed. 79, the Court of Appeals, Eighth Circuit, held the 6th claim of the patent invalid, saying (p. 85):

> "We are not satisfied that the sixth claim of the patent, which includes as an element the 'guard flange,' can or ought to be sustained. It cannot be sustained except by reading into it a feature of construction that is fully covered by other claims, and this we do not feel disposed to do. This claim being rejected as invalid, and no disclaimer having been filed before the suit was brought, under Section 973 of

the Revised Statutes (U. S. Comp. St. 1901, p. 703), the complainant is not entitled to recover his costs. Metallic Extraction Co. v. Brown, 49 C. C. A. 147, 150, 110 Fed. 665, 668, and cases there cited."

In *Metallic Extraction Co. v. Brown,* 110 Fed. 665, the Court of Appeals, Eighth Circuit, required disclaimer of claim 4, saying (p. 668):

"The claim does not contain any apt language which would suggest to a casual reader that the patentee intended to incorporate as one of the elements thereof the invention consisting of the supplemental chamber and slotted partition wall, which are covered completely by the first claim; and, in the absence of words which do clearly indicate such a purpose, we are not disposed to import into the claim a feature of construction already protected by another claim, merely for the purpose of sustaining the claim, and subjecting another to the charge of infringement. Such a method of construing the claims of a patent has often been condemned. McCarty v. Railroad Co., 160 U. S. 110, 116, 16 Sup. Ct. 240, 40 L. Ed. 358; Stearns & Co. v. Russell, 29 C. C. A. 121, 85 Fed. 218; Wilson v. Machine Co., 34 C. C. A. 280, 92 Fed. 167. In the present instance, the supplemental chamber, which, as Brown says in his specification, is the essential feature of his invention, is fully protected by his first claim, and we perceive no necessity for claiming it again in a more limited form, in connection with a carrier device, which is old in the art, nor do we believe that such was his purpose."

Judge Westenhaver in *Enstein v. Rich-Sampliner Co.*, 13 Fed. (2d), 132 at 136, says:

> "In Minerals Separation v. Butte, etc., Mining Co., 250 U. S. 336, 354, 39 S. Ct. 496, 63 L. Ed. 1019, a delay of 3 months and 17 days after final decision was excused, because the owners of the patent resided in a foreign country and war-time conditions then prevailing rendered communication slow and difficult. If foreign residence and war-time conditions must be invoked to explain a delay so brief, an unexplained delay of 2 years must certainly be held unreasonable."

In conclusion we submit that the motion to dismiss must be sustained and this suit dismissed on the ground that the patent in suit stands wholly void. Claim 37 of the patent in suit was found to be invalid by the special master. A patent containing an invalid claim is wholly void in law. Such invalidity can be cured only by a compliance with §§4917 and 4922 if those statutes apply. Defendants say that plaintiff did not comply with the statute. Plaintiff says that the statute does not apply. The court below decided against defendants' proposition. It did not sustain plaintiff's proposition. Manifestly, the patent remains wholly void unless both defendants and plaintiff are wrong. We submit that plaintiff is demonstrated to be wrong on its proposition and that defendants are shown to be right. The court below misconstrued the rule of the Supreme Court announced in *Ensten v. Simon Ascher & Co.* In either event, the court below erred in overruling the motion to dismiss.

CONCLUSION.

In conclusion, we submit that the decree of the District Court dismissing the bill of complaint in this case should be affirmed on any and all of the following grounds:

(1) The defendants' elevators do not infringe the patent in suit.

(2) The patent in suit is invalid if broadly construed.

(3) Parker made no substantial or practical invention.

(4) Defendants' elevators did not infringe the original patent, and the reissue claims can not be asserted against the defendants because of intervening rights.

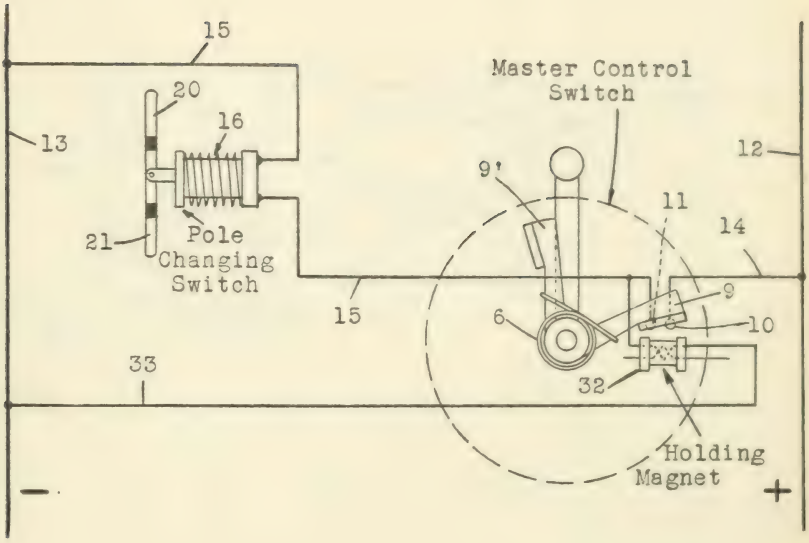
(5) The patent is wholly void because of plaintiff's failure to promptly enter a disclaimer of claim 37, found void by the special master.

"It is as important to the public that competition should not be repressed by worthless patents, as that the patentee of a really valuable invention should be protected * * *." (*Pope Mfg. Co. v. Gormully*, 144 U. S. 234.)

Respectfully submitted,

FREDERICK S. LYON,
LEONARD S. LYON,
RICHARD F. LYON,
Attorneys for Defendants.

FIGURE 1 – PRIMARY CIRCUIT



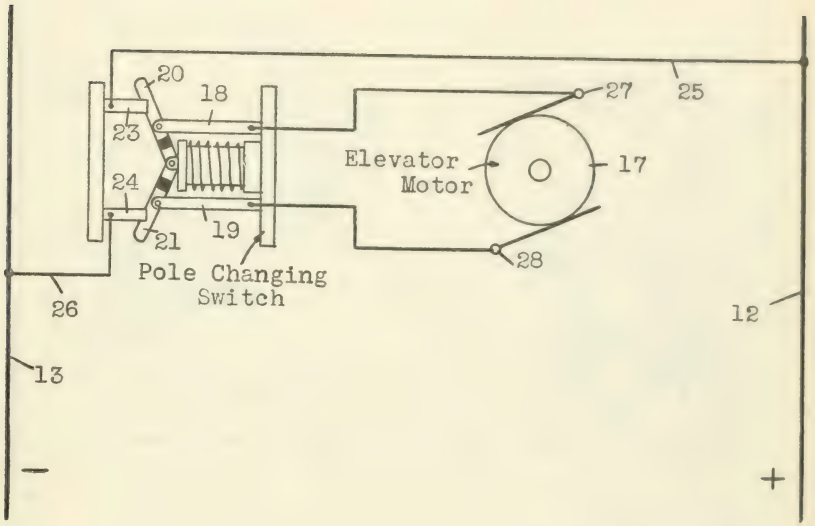
Trace: (1) Positive main 12, through contacts 10-11 of car switch, bridged by plate 9, through wire 15 to magnet 16, wire 15 to negative main 13;

Trace: (2) Also positive main 12, through contacts 10-11 of car switch, bridged by plate 9, through "up" holding magnet 32, line 33 to negative main 13.

Function: (1) To energize pole changing magnet 16. See motor circuit, Fig. 2;

(2) To energize holding magnet and maintain plate 9 of car switch bridging contacts 10-11.

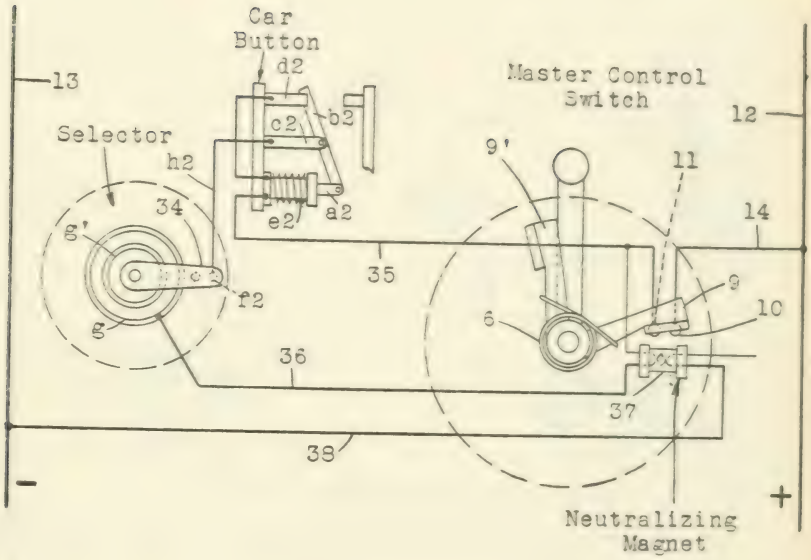
FIGURE 2 – MOTOR CIRCUIT



Trace: Positive main 12, line 25 to contacts 23 and 20 of pole changing switch, post 18 through line to brush 27, through elevator motor to brush 28, post 19 to contacts 21 and 24 of pole changing switch, line 26 to negative main 13.

Function: To drive elevator motor.

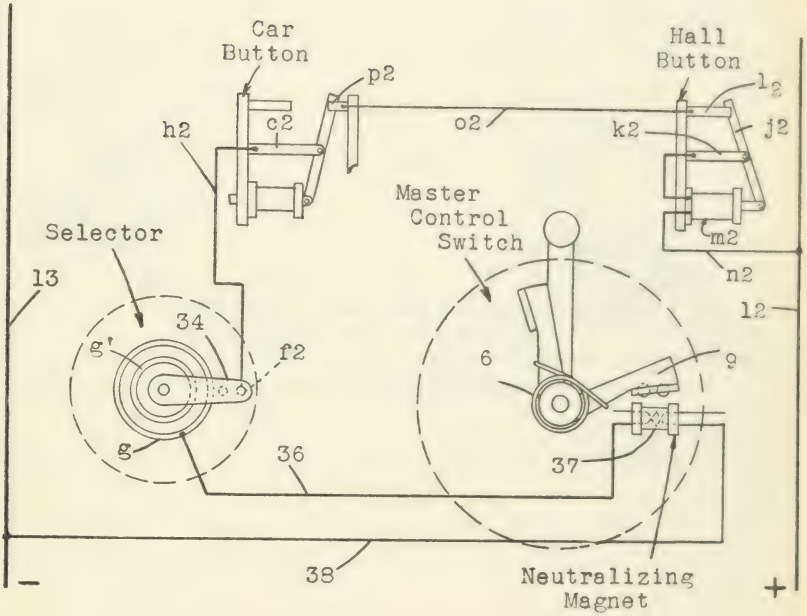
FIGURE 3 - SECONDARY CONTROL CIRCUIT (CAR BUTTON)



Trace: Positive main 12, line 14, car switch 10-11 and bridge 9, line 35, re-set magnet e^2 of car button, contacts d^2 and b^2 and post c^2 of car button, line h^2, contact f^2, brush 34 and ring g of selector, line 36, neutralizing magnet 37 (wound on holding magnet 32), line 38 to negative main 13.

Function: Energize releasing magnet 37 and re-set coil e^2, releasing magnet *immediately* releases bridge 9 disconnecting primary circuit, Fig. 1, and motor circuit, Fig. 2.

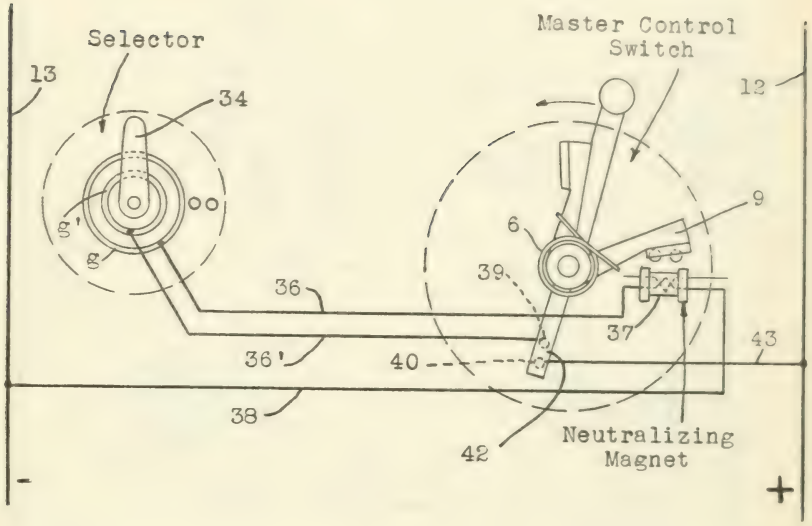
FIGURE 4 – SECONDARY CONTROL CIRCUIT (HALL BUTTON)



Trace: Positive main 12, line n^2, re-set coil m^2, post k^2, contacts j^2 and 1^2 of Hall Button, line o^2, rear contact p^2 and post c^2 of car button, line h^2, contact f^2, arm 34 and ring g of selector, line 36, neutralizing magnet 37, line 38, to negative main 13.

Function: Energize neutralizing magnet 37 and re-set coil m^2, neutralizing magnet *immediately* releases bridge 9 disconnecting primary circuit, Fig. 1, and motor circuit, Fig. 2.

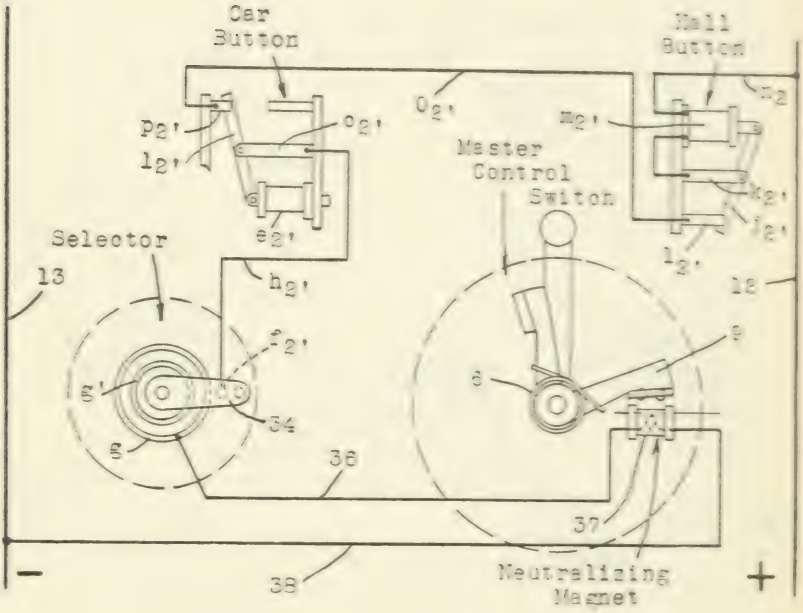
FIGURE 5 - TAIL PIECE CIRCUIT (EXHIBIT "V")



Trace: Positive Main 12, line 43, Contacts 40 and 39 bridged by Tail Piece, line 36′ to ring g′, brush 34 to ring g, line 36 to Neutralizing Magnet 37, line 38 to Negative Main 13.

Effect: Energize magnet 37 releasing car switch causing car to stop – Elevator inoperative.

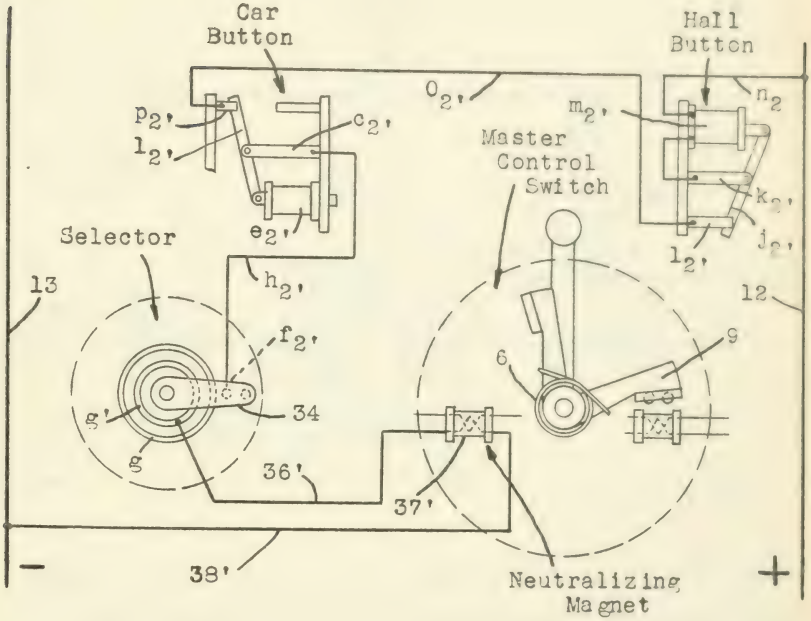
FIGURE 6 - UP TRAVEL CAR STOPPED BY DOWN BUTTON (EXHIBIT "W")



Trace: Positive main 12, line $n^{2'}$ to Reset Coil $m^{2'}$, Post $k^{2'}$, Contacts $j^{2'}$ and $l^{2'}$ of Down Hall Button, line $0^{2'}$ to Contact $p^{2'}$ and $l^{2'}$ and Post $c^{2'}$ of Car Button, line $h^{2'}$ to Contact $f^{2'}$, Brush 34 and Ring g of Selector, line 36 to Neutralizing Magnet 37, and line 38 to Negative Main 13.

Effect: Energizes Neutralizing Magnet 37 and stops Up travelling car by *Down* Button – Control System inoperative.

FIGURE 7 – DOWN BUTTON RESET BY CAR GOING UP (EXHIBIT "Y")

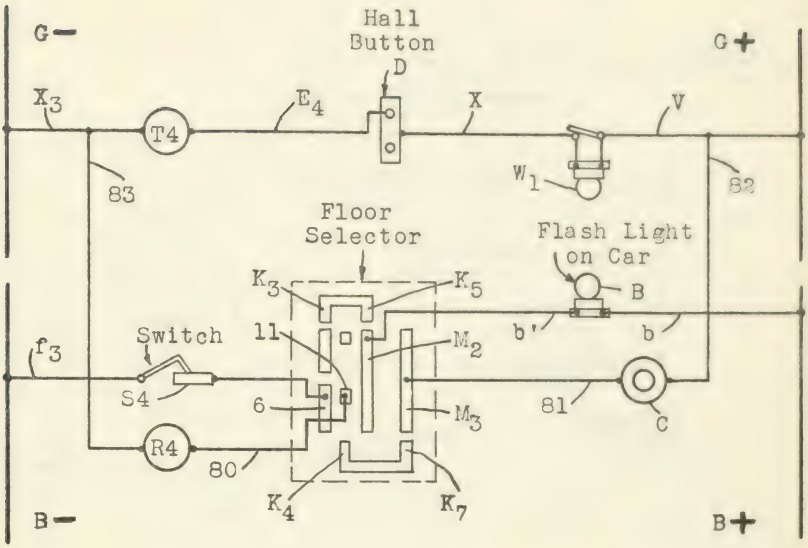


Trace: Positive Main 12, line n^2 to Reset Coil $m^{2'}$, Post $k^{2'}$, Contacts $j^{2'}$ and $1^{2'}$ of Down Hall Button, line $0^{2'}$ to Contacts $p^{2'}$ and $1^{2'}$ and post $c^{2'}$ of Car Button, line $h^{2'}$ to Contact $f^{2'}$, Brush 34 and Ring g of Selector, line 36′ to Neutralizing Coil 37′, line 38′ to Negative Main 13.

Effect: Energize Reset Magnet $m^{2'}$ and Reset Hall Button by Up travelling car – Control system inoperative to stop car on return Down trip.

Note: Circuit not dependent on rings g and g′ being connected.

FIGURE 8 - SECONDARY CONTROL CIRCUIT
(SMALLEY & REINERS)



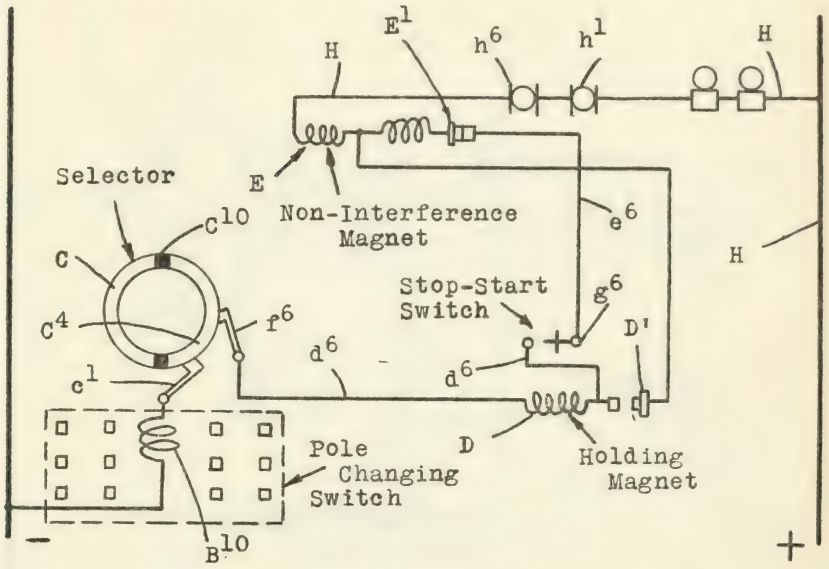
Trace: (1) Generator positive G+ to line V, thru W^1 (Night Bell), line X to Hall Button (4th floor), line E^4 thru Magnet T^4 line X^2 to generator negative G–.
Function: Energize magnet T^4 which closes switch S^4. See Circuit (2).

Trace: (2) Battery positive B+ line b to Flash Light B, line b′ to strip M^2 and contact 6 of Floor Selector (to be connected by bridge K^3–K^5, to Switch S^4 and line f^3 to Battery negative B–.

Function: Energize Flash Light B on car to instruct operator to return Car Switch to Neutral and stop car.
Trace: (3) Generator positive G+, line 82, button C, line 81, selector strip M^3 and bridge K^4–K^7 to contact 11, line 80 to Reset Coil R^4, line 83 to Generator minus G–.

Function: Energize Reset oil R^4 and open Switch S^4.

FIGURE 9 - CONTROL CIRCUITS (IHLDER)



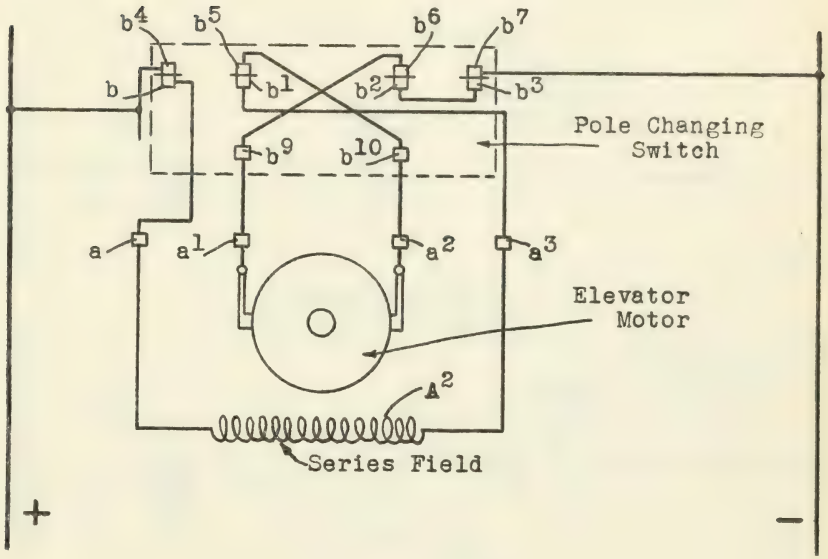
Trace: (1) Positive main, line H, contacts h^1 to h^6 (Door contacts to prevent car starting with door open) to Non-interference Magnet E, E^1, Push Button (stop-start switch) g^6, Holding Magnet D, line d^6, brushes f^6–c^1, ring C^4 of selector, Coil B^{10} of Pole Changing Switch to negative main.

Function: To energize Pole Changing Switch and start car, see Figure 10, and energize Holding Magnet D, see (2).

Trace: (2) Positive main, contacts h, h^6, coil E of Non-interference Magnet, armature D^1 (closed by circuit (1) above) and coil of Holding Magnet D, selector brushes f^6, c^1 and ring C^4, Coil B^{10} to negative main.

Function: To establish "holding circuit" and permit car to continue to run when Switch g^6 is released.

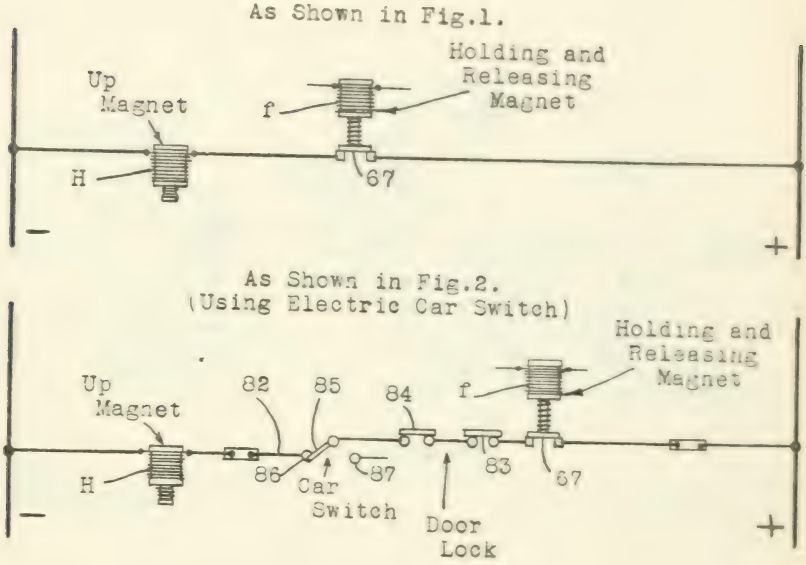
FIGURE 10 – MOTOR CIRCUIT (IHLDER)



Trace: Negative main, contacts b^7, b^3, b^2, b^6, b^9, post a^1, thru elevator motor to post a^2, contacts b^{10}, b^5, b^1 to post a^3, thru series field, post a, contacts b, b^4 to positive main.

Function: To energize elevator motor.

FIGURE 11 - PRIMARY CONTROL CIRCUITS (STROHM)



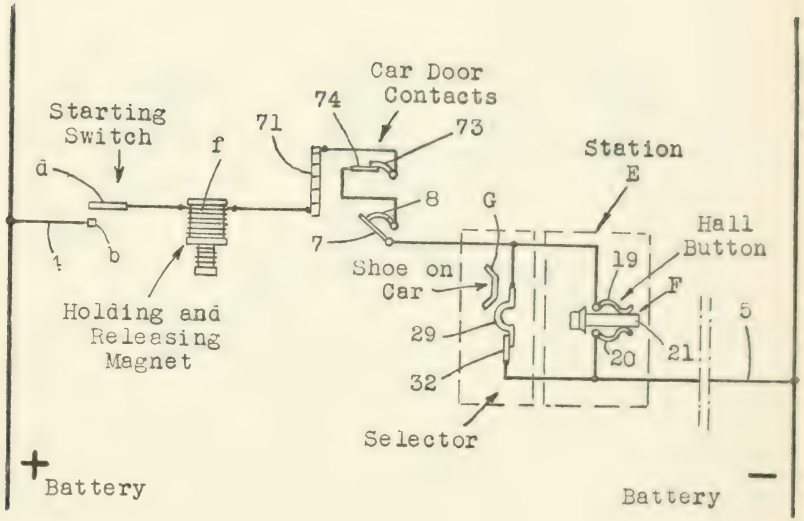
Trace: (1) Negative main to coil of Up Magnet H, thru Switch 67 of Holding and Releasing Magnet f to positive main.

Function: To energize Magnet H which operates Up valve on hydraulic elevator motor.

Trace: (2) Negative main, thru Up Magnet and fuse, thru contact 86 of Car Switch 85, thru door locks, thru Switch 67 of Holding and Releasing Magnet, thru fuse to positive main.

Function: To energize Magnet H which operates Up valve on hydraulic elevator motor.

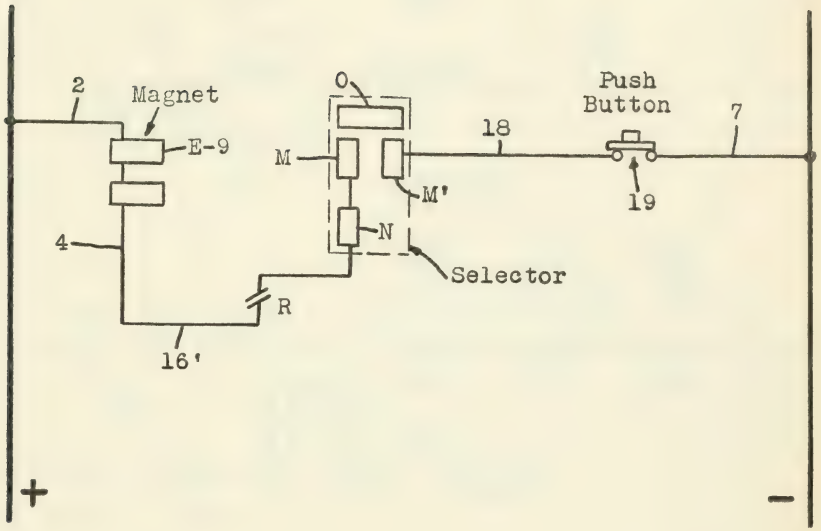
FIGURE 12 - SECONDARY CONTROL CIRCUIT (STROHM)



Trace: Battery positive, thru line 4 to contacts b and d of Starting Switch, thru Holding and Releasing Magnet f, thru safety contacts 71, 73, 74, 7, and 8 on Car, to Selector switch 29, 32, and also to Hall Button contacts 19-20, thence thru other devices (represented by break), thru line 5 to Battery minus.

Function: Energize Holding and Releasing Magnet f until Selector contacts 29, 32, are opened by Shoe on car, deenergizing Magnet f to open Primary Circuit, Figure 11.

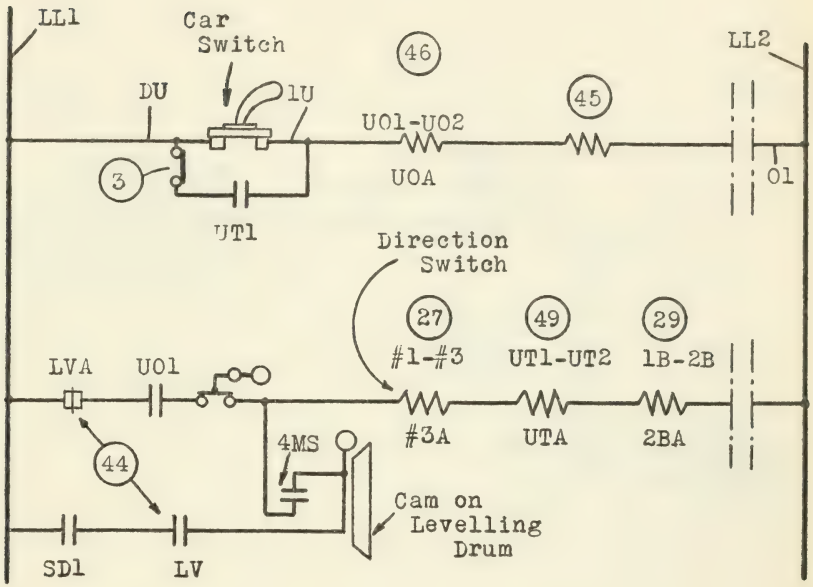
FIGURE 13 - SECONDARY CONTROL CIRCUIT (ONGLEY)



Trace: Negative Main, thru line 7 to Push Button 19, line 18 to contact M′, thence by bridge 0 to contact M, line to contact N, thence to switch R (closed by valve-mechanism), lines 16′ and 4 to magnet E9, line 2 to positive main.

Function: To stop car at floor by energizing magnet E9 which operates valve of hydraulic motor.

FIGURE 14 – DEFENDANT'S RUNNING CIRCUITS



Trace: (1) Main LL1, thru line DU, thru Car Switch, thru line 1U, thru coil of relay #46, thru coil of relay #45, thru safety and auxiliary devices (represented by the break) thru line O1 to main LL2.

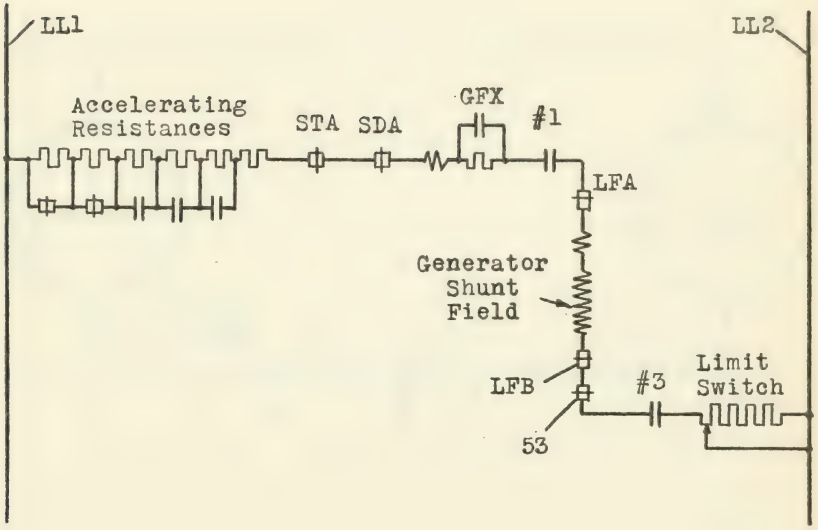
Function: Energize relays 46 and 45—relay 46 closes UO1 contact in circuit (2).

Trace: (2) Main LL1, thru contacts LVA and UO1, thru coils of relays 27, 49, and 29, to main LL2.

Function: Relay 29 releases brake from elevator motor by another circuit. Relay 27, called "Direction Switch", closes Generator Field circuit (Figure 15). Relay 49 closes contact UT1 making shunt around Car Switch.

(Note:) Circuit thru Levelling Drum now open.

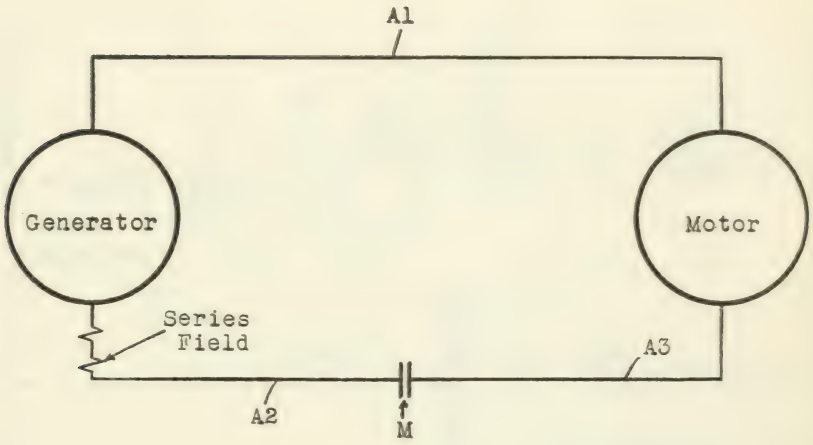
FIGURE 15 – DEFENDANT'S GENERATOR FIELD ACCELERATING CIRCUIT



Trace: Main LL1 thru, Accelerating Resistances, thru contacts STA and SDA, thru Governor-controlled resistance GFX, thru contact #1 (of Direction Switch 27), thru contact LFA, thru Generator Shunt Field, thru contact LFB, thru contact 53, thru contact #3 (of Direction Switch 27), thru Limit Switch to main LL2.

Function: Energize Generator Shunt Field in direction to induce current in Motor Circuit (Figure 16) to start car upwardly.

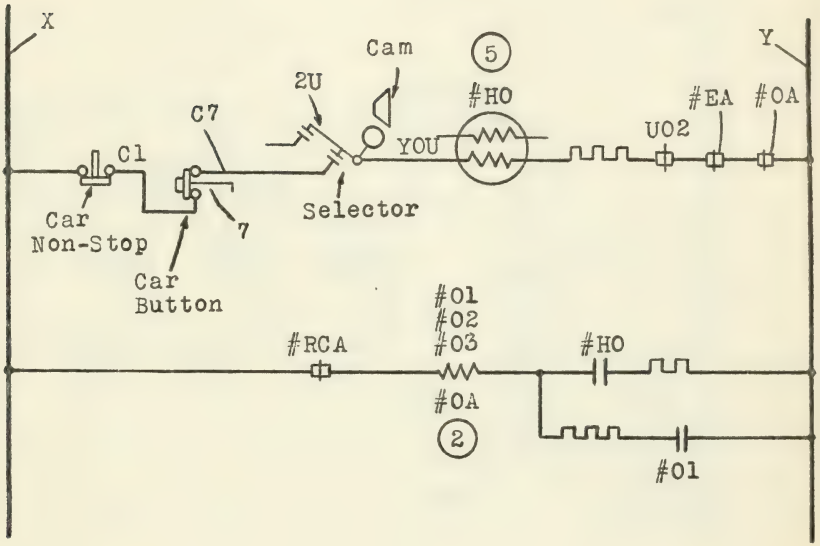
FIGURE 16 - DEFENDANT'S MOTOR CIRCUIT



Trace: Generator thru line A1 to Elevator Motor, thru line A3 to contact M of Relay 48, line A2, thru Defendants' Newly Devised Series Field, to generator.

Function: To energize elevator motor.

FIGURE 17 – DEFENDANT'S CAR BUTTON SELECTOR CIRCUIT



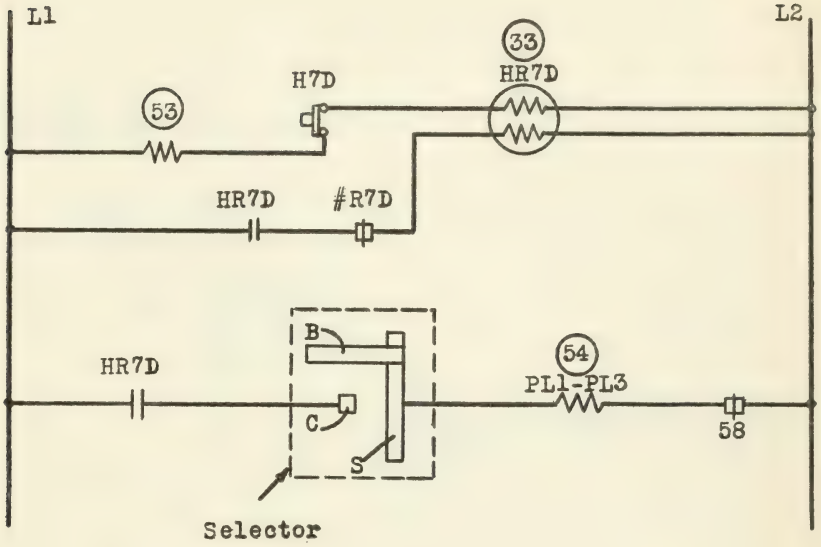
Trace: (1) Main X, thru Car Non-Stop, thru line C1, thru #7 Car Button, thru line C7, thru 2U Cam-operated switch of Selector, thru coil of relay 5, thru resistance and contacts UO2, thru #EA, and #OA to main Y.

Function: Energize Relay #5 which closes circuit (2).

Trace: (2) Main X, thru contact RCA, thru relay 2, thru contact HO to main Y.

Function: Closes circuits to Slow-Down Machine to prepare for its operation.

FIGURE 21 – DEFENDANT'S HALL BUTTON SELECTOR CIRCUIT



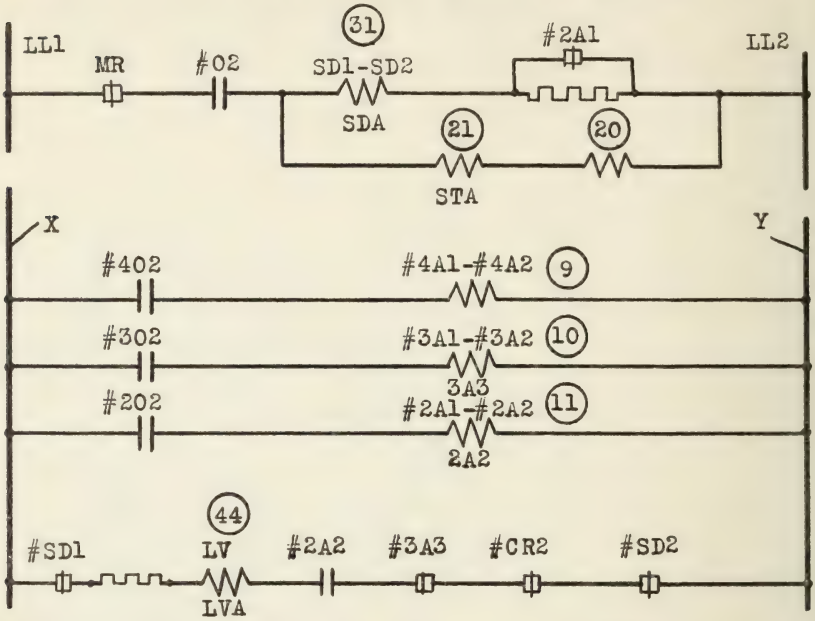
Trace: (1) Main L1 thru coil 53 thru seventh floor Hall Button H7D, thru coil of Relay 33 to main L2.

Function: Energize relay 33, which closes self-holding circuit thru its second coil (Main L1 contact HR7D thru contact #R7D thru relay 33 to main L2), and also closes contact leading to selector.

Trace: (2) Main L1 thru contact HR7D, thru contact C, thru bridge B and strip S of Selector, thru Relay 54 to L2 main.

Function: To energize relay 54 which lights operator's flash and prepares slow-down machine to operate.

FIGURE 18 – DEFENDANT'S SLOW-DOWN AND STOPPING MACHINE RELAY CIRCUITS



Trace: (1) Main LL1, thru contact MR, thru contact #O2, thru relay 31, contact #2A1, to main LL2.

Trace: (1a) Main LL1, thru contact MR, thru contact #O2, thru relays 21 and 20, to main LL2.

Function: Relays 31 and 21 prepare for insertion Decelerating Resistance (Figure 20).

Trace: (2) Main X, thru contact #402, thru relay 9, to main Y.

Trace: (3) Main X, thru contact #302, thru relay 10, to main Y.

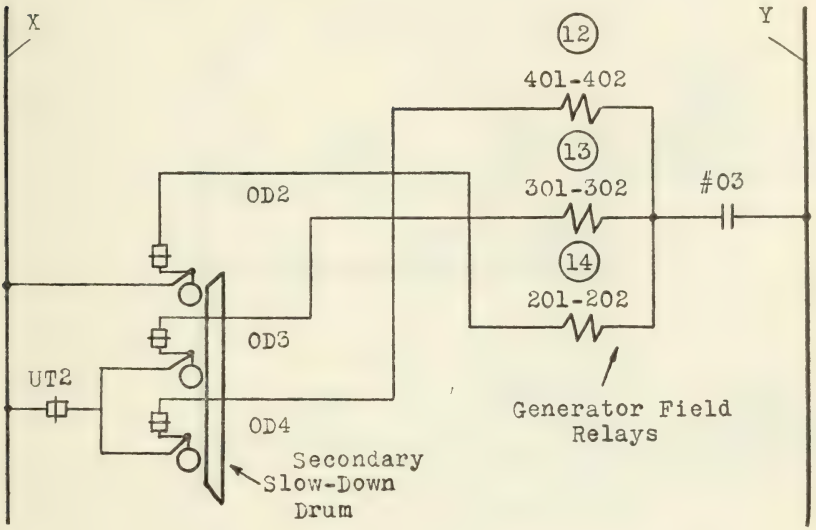
Trace: (4) Main X, thru contact #202, thru relay 11, to main Y.

Functions: Energize relays 9, 10, and 11 which are to insert resistance in generator field (Figure 20) on being deenergized.

Trace: (5) Main X, thru contact SD1, thru relay 44, thru contact #2A2 and others, including SD2, to main Y.

Function: Energize relay 44, whose contacts (Figure 14) transfer holding circuits to leveling drum.

FIGURE 19 – DEFENDANT'S SLOW-DOWN AND STOPPING MACHINE CAM CIRCUITS



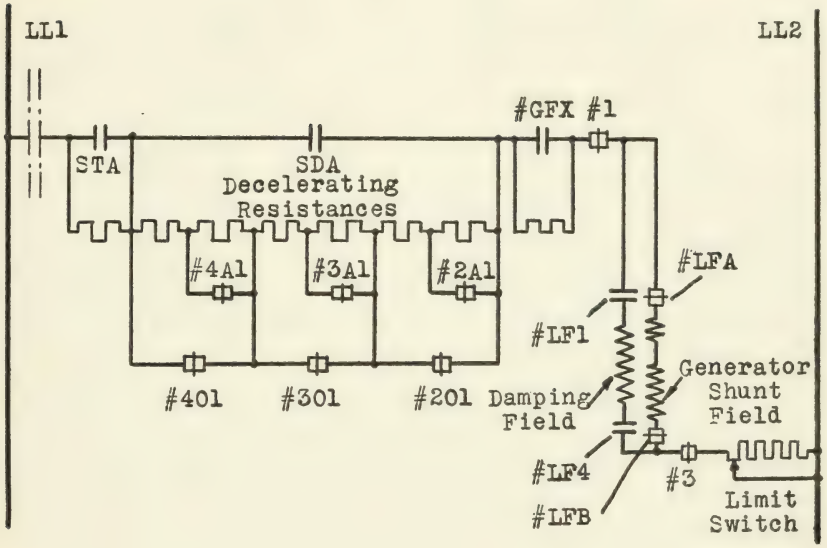
Trace: (1) Main Y thru contact #03 thru relay coil 12 thru Cam-operated Switch OD4, thru contact UT2 to X main.

Trace: (2) Main Y thru contact #03 thru relay coil 13 thru Cam-operated Switch OD3, thru contact UT2 to X main.

Trace: (3) Main Y thru contact #O3 thru relay coil 14 thru Cam-operated Switch OD2 to X main.

Functions: Energize, respectively, relays 12, 13, and 14, which cut out resistance in Generator Field Circuit (Figure 20) – circuits operate by opening to deenergize relays to insert resistances.

FIGURE 20 – DEFENDANT'S GENERATOR FIELD DECELERATING CIRCUIT



Trace: Main LL1 thru Decelerating Resistances, thru GFX, thru contact #1 of Direction Switch #27, thru contact #LFA, thru Generator Shunt Field, thru contact #LFB, thru contact #3, thru Limit Switch, to main LL2.

Function: Energize Generator Shunt Field circuit, this illustrates the insertion of step-by-step resistance and transfer of Generator Shunt Field to Damping Field.

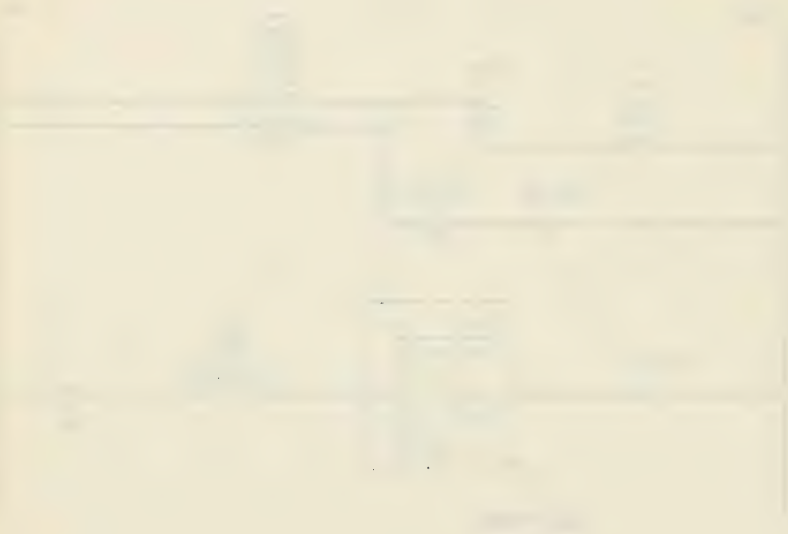
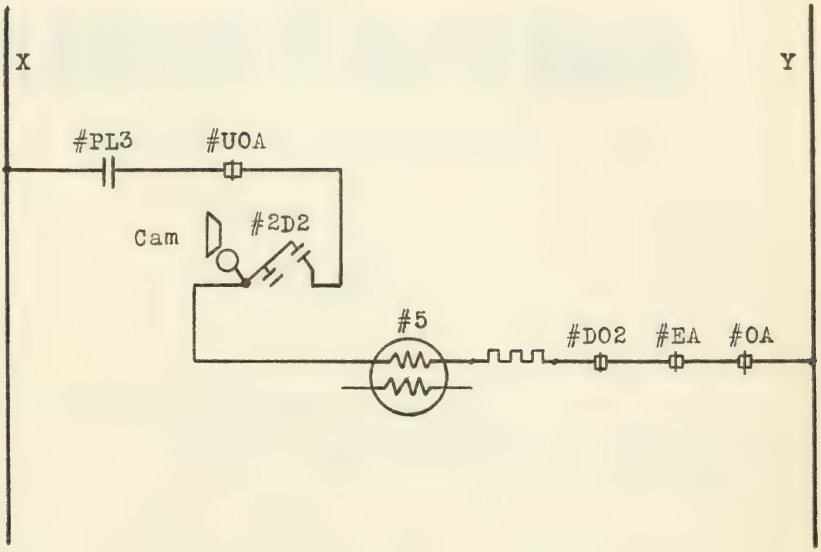


FIGURE 22 – DEFENDANT'S CIRCUIT FOR CONNECTING RANDALL MACHINE AND SLOW-DOWN MACHINE



Trace: Main X, thru contact #PL3, thru contact #UOA to second contact of #2D2 cam-operated switch, thru relay #5, thru other contacts to main Y.

Function: Energize relay #5 – circuit connects Randall Selector with Slow-Down Machine.

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT.

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

PLAINTIFF'S REPLY BRIEF.

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Plaintiff.

THE GUNTHORP-WARREN PRINTING COMPANY, 210 WEST JACKSON, CHICAGO

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Defendants, Appellees and Cross-Appellants.

PLAINTIFF'S REPLY BRIEF.*

Statement.

Plaintiff pointed out at the argument that the inventive concept of the Parker Patent in Suit, is directed to a Control for an Electric Elevator in which an *attendant operator* is *stationed in the car,* and in which *the starting of the car is entirely* under the control of the attendant, whereas the *stopping* of the car at landings, in *proper sequence, is automatically* attained, by pushing buttons either in the car or at the landings. Plaintiff also demonstrated that when

* As both parties are appealing we shall, as in the brief heretofore filed by us, refer to the parties as plaintiff and defendants respectively. Defendants, who are likewise cross-appellants, having filed their brief only three days before the argument, this Court entered an order permitting plaintiff to file this reply.

the *"car switch"* type of electric elevator is harnessed with the Parker control, it is so subjected to and dominated by it as to operate in the manner so fully pointed out in the Parker patent.

The *Parker control* for attendant operated electric elevators comprises—

(a) An electrical circuit (*the running circuit*), controlled *only* by a car switch within the car to start and run the car; ,

(b) *A holding circuit,* also initiated by moving the car switch to "on" position, which so *maintains the running circuit* that the car, once started, will continue to run after the operating handle of the car switch is turned to "off" position; and

(c) *Secondary stopping circuits,* provided with manual closing means (push buttons) located in the car and at each landing, and with an automatic circuit closing means (a selector), synchronized with the movement of the car for initiating the slowing down and stopping of the car at the desired landings in proper sequence. After the car has been thus automatically stopped at any floor, the car switch handle must again be moved to "on" position to start the car.

We also showed at the argument that defendants' electric elevators, installed at the Pacific Finance Building, are each operated by an attendant operator stationed in the car, and that *the starting of the car is entirely under the control of the attendant,* whereas *the stopping* of the car at the landings *is automatically attained* either by pushing buttons in the car or at the landings. These results were secured by defendants through use of the Parker control which they appropriated and used after an examination of plaintiff's "Signal Control" elevators in the Standard Oil Building in New York, (shown and described in the Scientific American of October, 1925, Plaintiff's Exhibit 11, reproduced in the Appendix to our original brief).

We also showed that the defendants have utilized Parker's control, in their single installation of four elevators

at the Pacific Finance Building, for so dominating their attendant operated electric elevators as to accomplish the results of the Parker invention, and that this control comprises—

(a) An electric circuit (*the running circuit*) controlled by the car switch to start and run the car;

(b) *A holding circuit,* initiated by moving the car switch to "on" position, which so maintains the running circuit that the car, once started, will continue to run after the operating handle of the car switch is returned to "off" position without stopping the car. (This is referred to in the defendants' installation as "Up Holding" relay 49.) When the holding circuit is completed, the car switch handle may be moved to "off" position and the car will continue to run until automatically stopped in response to push buttons;

(c) *Secondary stopping circuits* provided with manual closing means (push buttons) located in the car and at each landing, and with an automatic circuit closing means (a selector) synchronized with the movement of the car for initiating the slowing down and stopping of the car, at the desired landings, in proper sequence. After the car has thus been automatically stopped at any floor, the car switch must again be moved to "on" position to start the car.

DEFENDANTS USE THE PARKER CONTROL FOR THEIR ELECTRIC ELEVATORS.

(a) THE STARTING AND RUNNING CIRCUITS.

In both the installation diagrammatically shown and described in the Parker patent and in defendants' installation, *the starting and running circuit* is completed by moving the car switch to "on" position so that the car will start and run. This operation of the car switch in each instance also completes a *maintaining circuit* which holds the running circuit completed so that the car will continue to run after the car switch handle has been thrown to "off" position.

(b) THE STOPPING CIRCUITS AND MECHANISMS.

In both the installation diagramatically shown and described in the Parker patent and in defendants' installation, the *automatic stopping of the car* is accomplished, in proper sequence, through pushing buttons either in the car or at the landings, corresponding to any of the various floors at which the passenger desires it to stop. The pushing of the buttons, supplemented by the automatic action of a selector, synchronized with the movement of the car, completes circuits which causes the car to slow down and stop for the first floor for which a button has been pushed, and in proper sequence at each subsequent floor for which buttons have been pushed. After each stop the car can be started *only* by the operator throwing the car switch to "on" position.

We have shown in our original brief (pp. 135-153) the untenability of defendants' contention that the claims in suit are for mere functions.

The foregoing comparison between the Parker control and that used by the defendants shows that mere functions are not relied upon to establish infringement by the defendants, and that the claims here asserted are each plainly directed to structural combinations and not mere functions.

An *electrical circuit* (*running circuit*) controlled *only* by a *car switch* within the car to *start* and *run* the car, a *holding circuit* initiated by movement of the car switch to "on" position, which so maintains the running circuit of the car that once started the car will continue to run after the operating switch is returned to "off" position, *combined for operation,* with *secondary stopping circuits* provided

with *push buttons* located within the car and at each landing, and *an automatic circuit closing means* (*the selector*) synchronized with the movement of the car, for initiating the slowing down and stopping of the car at the landings, in proper sequence, and *the circuits* being so constructed and arranged to operate that when the car has been automatically stopped at any floor the car switch must be again moved to "on" position to start the car *are not merely for functions* as defendants contend. They are for concrete things which operate in a particular manner to accomplish the desired result.

An electrical circuit is just as much an element as a lever or other device in the mechanical arts. It is just as proper to specify in a claim a circuit or circuits combined with switches, push buttons, selectors, motors and other elements capable of doing a certain thing or things, and causing them to act at a certain time by certain means, as it is to specify a lever, a pivot or other mechanisms in a claim to accomplish a certain result in a particular combination where they are arranged to operate upon the co-operation of some other mechanism or upon the happening of certain conditions.

The claims of the Parker patent before the court are of the character and kind generally used in electric elevator and other patents, and have been repeatedly approved by the courts (see pp. 135-153 of our original brief).

In both the Parker patent and defendants' installation, the dominating features of the Parker control are utilized in starting, running and stopping the car, to-wit, the *starting, running and maintaining circuits* set up by moving the car switch to "on" position, which so functions as to cause the car to continue to run after the car switch handle has been returned to "off" position, and *secondary stop-*

ping circuits, controlled by the pushing of buttons (either in the car or at any landing) and the *automatic action of a selector,* synchronized with the car movement, which causes the car to be slowed down through proper braking mechanism and stopped at each of the desired landings and the power to the elevator motor killed, so that the car can again be *started,* after each stop, *only* by moving the car switch to "on" position.

These are the dominating features of the Parker control. They are clearly depicted in his patent and testimony.

Parker clearly pointed out that his control should be so constructed and timed as to (Patent, p. 5, lines 25 *et seq.*)

> "allow for the timely operation of the usual braking mechanism to overcome the momentum of the car, so that the ultimate point at which the car comes to rest will be in proper alinement with the floor level."

These are used by plaintiff in all its "Signal Control" elevators and by the defendants in their installations, for accomplishing the results expressly stated by Parker.

PARKER PATENT MAKES NO ATTEMPT TO SHOW PRIOR DEVICES, WELL KNOWN TO ELEVATOR ENGINEERS, BUT SIMPLY HOW HIS CONTROL MAY BE USED TO DOMINATE THEIR ACTION.

Parker does not specify the kind of motor control that is to be used in running the elevator, whether the kind used by the Otis Elevator Company in its "Signal Control" elevators, or the "Ward Leonard type"* used by the defendants in their elevators, both of which had been used previous to the Parker invention, and generally familiar to elevator engineers. (R. 394, 509, 510, 378, 538, 422, 116, 121, 124, 203, 210, 208, 406, 108, 109, 558, 562; Vol. 3, p. 295.)

* This is shown in the Ward Leonard patent of 1892, Defts.' Ex. X 7, R. Vol. 3, 296-300.

Parker relied upon elevator engineers to use the kind of motor they desired. He fully appreciated that any elevator engineer could readily apply his control to any of the various elevator devices then in use in such a way as to dominate their action. (R. 108, 109.) It was so applied by both plaintiff's and defendants' engineers. (R. 378, 522, 523.)

Parker likewise simply showed a *diagrammatic form of selector* through the use of which a secondary circuit is to be completed for automatically bringing about the stopping of the car at each designated landing, in proper sequence, in response to pushing buttons either in the car or at the landings. The *selectors* used by the plaintiff and defendants are of types previously known and extensively used. (R. 378, 563, Defts' Ex. X-11.) These accomplish the Parker results by their use of his combination.

Parker refers to the usual braking mechanisms with which his secondary circuit closing means should be so timed as to cause such "braking mechanisms" to be fully utilized in bringing the car to stop at each of the desired landings. He did not illustrate any particular form of braking mechanisms by which the car was decelerated and brought to a stop, as these were old in the art and were recognized by engineers generally. (R. 394, 509, 510, 378, 538, 422, 116, 121, 124, 203, 210, 208, 406, 108, 109, 558, 562; Vol. 3, p. 295.)

He was, however, insistent that all of these elevator mechanisms should be so harnessed and dominated by his control that they would perform in the manner which he so specifically sets up and obtain results never before attained. (R. 399, 426, 54, 60, 61, 121, 264, 265.) For further discussion of the evidence as to these old devices see *infra* pp. 24-31.

EVIDENCE OF PLAINTIFF AND DEFENDANTS IS IN ENTIRE ACCORD THAT DEFENDANTS' ELEVATORS ARE SO CONTROLLED AND OPERATED AS TO SECURE THE FULL RESULTS OF THE PARKER INVENTION.

Defendants' and plaintiff's witnesses agree that in defendants' installation the car (in normal operation) can be started *only* through the operator moving the car switch located within the car to "on" position; that when this is done the car will continue to run after the car switch is moved to "off" position, and that the car can be automatically stopped, in proper sequence, at each floor in response to pushing buttons corresponding to that floor, located either in the car or at the various landings, and that prior to the Parker invention they had never seen or heard of anything like it. (R. 133, 134, 397, 426.)

Plaintiff's and defendants' witnesses also agree that in defendants' installation, once the starting and running circuit is completed by moving the car switch handle to "on" position, an up holding relay or maintaining circuit is likewise completed through the operation of the car switch, which maintains the running circuit and causes the car to continue to run after the car switch handle has been thrown to "off" position, and that the stopping of the car is automatically attained at any landing, in proper sequence, in response to push buttons pushed within the car or at any landing, through the action of a selector which completes the stopping circuit and causes the car to slow down and stop at the desired landing, and that circuits and switches are so arranged and automatically operated that the car switch handle must be moved to "on" position, after each stop, to start the car, and that the car can be started *only* from the car switch. (R. 133, 134, 397.)

DEFENDANTS' POSITION AS TO INFRINGEMENT.

Defendants' position as to non-infringement of the claims in suit, except claim 3, primarily is that because their elevators utilize a primary and secondary slow-down drum and a leveling drum in their stopping operation, they do not infringe. This contention is made despite the fact that slow down (decelerating) mechanisms were admittedly old in the art (R. 394, 505, 509, 510, 378, 538, 422, 116, 108, 109, 203, 208, Vol. 3, p. 295; R. 406, 562), and that defendants control the action of these mechanisms by the Parker invention which causes the car to automatically slow down and stop at each floor, in proper sequence, in response to pushing buttons, located in the car and at various landings, and to the automatic action of the selector.

Judge James likewise held non-infringement, largely it seems to us, because of the *unwarranted* assumption that there were no means for decelerating high speed elevator cars in the prior art (R. 640), and from this failure to appreciate the vital distinction between "push button" elevators of the Ihlder type and the Parker invention. (R. 638, 639.)

Each of the claims asserted, 3, 22, 29, 40, 41 and 65, when read in connection with the disclosure of the Parker patent, clearly calls for a "Control for Electric Elevators" which accomplishes a result admittedly new, and each of these claims, except claim 3, are so clearly infringed that defendants make no attempt to assert that their language does not read upon defendants' installation. Defendants' sole contention in regard to the language of any of the claims assailed is that claim 3 should not be given a sufficient range of equivalents to include within its language the defendants' installation.

At the argument we called attention to the propriety of each of the claims, and pointed out numerous decisions of

the Supreme and other courts approving them, including the *Bell Telephone Cases* (126 U. S.), in which the claims are each much less definitive of mechanism than those of the Parker patent.

The record shows that Parker was a pioneer in providing a control, for attendant operated electric elevators, in which mechanism and electrical circuits were provided for so harnessing and dominating an electric elevator that it could be *started only* by the attendant from within the car, and is *automatically stopped,* in proper sequence at the different floors in response to pushing buttons either within the car or at any floor landing. (R. 399, 426, 54, 60, 61, 121, 264, 265.) He is entitled, under the decisions, to a liberal interpretation of his claims, each of which clearly includes within its proper scope defendants' installation.

The Master correctly understanding the Parker patent and the prior patent to Ihlder *accurately* found that Parker was entitled to a *liberal interpretation.* The lower court *misunderstanding* both Parker and Ihlder was of the opinion that Parker should be given a *strict* construction.

The Master and lower court found that the Ihlder patent was the *closest* reference to Parker. As a matter of fact, the Ihlder patent was *not plead* in the answer or *amendment* thereto, and *no notice* given concerning it prior to the trial under Revised Statutes 4920. Therefore, it cannot be urged as an anticipating reference.

Defendants' main contentions of non-infringement that the driving power for the elevator is killed by cutting in resistance, and that there is no contact in defendants' elevator which "is opened to stop the car" are completely disposed of by their own witness, DeCamp, who testified (R. 353) concerning defendants' control:

> "As a matter of fact, when this contact" (contactor 37) "is broken, that is when everything really quits and the brake is then put on."

DEFENDANTS' BRIEF.

Defendants are here urging each of the points which they argued before either the Master or the lower court. The Master decided against them on all points except the question of disclaimer which was not before him. The lower court decided against them on all points except non-infringement. The Master found and the lower court held each of the claims here asserted of the Parker patent valid, and thereby necessarily disposed of the following contentions so strenuously urged by the defendants. These were disposed of here to the satisfaction of the Master and lower court on the proofs before them. We shall here further demonstrate them to be entirely untenable and not supported by the record:

(1) Lack of invention;
(2) Lack of operativeness;
(3) Lack of utility;
(4) Alleged intervening rights;
(5) Alleged delay in filing disclaimer.

Defendants predicated their entire right to be heard in this court on two assignments of error (R. 658)—

> *First.* That the court erred in holding United States Reissue patent No. 16,297 in suit good and valid;
>
> *Second.* That the court erred in denying the motion of defendants to dismiss the bill of complaint herein, on the ground that plaintiff unduly delayed filing its disclaimer as to claim 37 of said reissue patent.

Our original brief covers the question of the character of the Parker invention, the scope which should be given the claims asserted and defendants' infringement, and that discussion will not be further repeated here.

We also anticipated as far as we could from defendants' very general assignments of error their contentions as to the invalidity of the Parker patent by showing that the prior art only aggravated the importance of the Parker invention and the great need for it, and considered also the question of disclaimer (pages 153-185 of our original brief).

As defendants' brief ranges into every defense it raised either before the Master or the lower court, we feel it necessary to file this reply brief.

An examination of the record will show that defendants' brief, in instances too numerous to mention,—

(1) Entirely disregards the uncontradicted testimony of the witnesses and distorts facts beyond recognition;

(2) Misconstrues the Parker dominating control for electric elevators;

(3) Attempts to re-write the Parker patent by injecting limitations into it neither required by its disclosures, the prior art, nor necessary for a proper interpretation of the claims asserted;

(4) Attempts to reconstruct and re-design the prior art references in the light of the Parker disclosures (and after-acquired knowledge) in an attempt to have them interpreted to mean something entirely different from what was intended by their disclosures, and to such an extent as would entirely defeat their definitely expressed objects.

When the record is read and understood as the Master understood it from the witnesses, the Parker invention stands out in bold relief.

As plaintiff showed at the argument, defendants' expert witnesses were unable to point out a single prior art reference which met the inventive concept of Parker, or which would perform the functions or secure the results which Parker so specifically states he accomplishes by his invention.

This is shown by the cross-examination of defendants' expert witness, Doble. Mr. Doble after considerable pressure on cross-examination stated (R. 462):

> "The only two patents of the fifteen which I found which contemplate a structure in which the car may be started only from within the car and be automatically stopped by initiating the stopping within the car and from the landing are the Ongley and Strohm patents."

On further cross-examination (R. 464, 470) he was compelled to admit that the Ongley structure would not accom-

plish the Parker results, and that its operation is diametrically opposed to that of Parker. He was compelled to make similar admissions concerning the Strohm patent, which showed that it was neither designed to nor could it accomplish the results of the Parker invention (R. 481, 483).

At the outset of Mr. Doble's examination, the Master asked the witness as to what he considered the closest references. He said:

> "I do not consider any one of these patents in this folder X-1 to X-15 disclose the same structure as the Parker patent discloses."

On cross-examination (R. 468) when requested to pick out the one patent he considered the closest disclosure to the Parker patent, he still persisted in refusing to do this (R. 491). The record shows that:

> "Witness was asked, since he had canvassed the situation pretty thoroughly both on direct and cross-examination, if he could for the benefit of the Court pick out the one structure which he thought most closely resembles the structure disclosed and described in the Parker patent.
>
> "Witness answered he could not."

Defendants' counsel was unable to call the Court's attention, at the argument, to a single patent of the prior art which would accomplish the Parker results or perform the functions of the Parker invention.

We shall not attempt to point out all of the numerous errors of statement of facts having to do with the questions of invention, operativeness, utility, intervening rights and non-infringement which have been made in defendants' brief, all of which the Master, who saw and heard all of the witnesses, decided adversely to the defendants, and which have likewise been disposed of adversely to them by the lower court. We assume that the Court will examine the record in reading defendants' brief. We shall call attention only to the more glaring errors, misstatements and misinterpretations contained in it, without attempting to repeat subject matter covered by our original brief.

POINT I.

PARKER PATENT OPERATIVE.

IT WAS SO HELD BOTH BY THE MASTER AND JUDGE JAMES.

Defendants' contention that the Parker invention disclosed in the Parker patent would be inoperative if constructed *exactly* as shown in the diagrammatic drawings of the Parker patent is beside the point. Defendants completely ignore the admissions of the witnesses on both sides that the Parker patent disclosed to skilled engineers an operative device. They further disregard the well established rule of law (see authorities, page 36 of our main brief) that—

> "a patent is addressed to men who know the art and if such men can build and operate the device so that it functions as the patent says it will, although imperfectly and only after trial and error, that is enough. *A. B. Dick* v. *Barnett,* 288 Fed. 799, 801."
>
> (*Radio Corp.* v. *Edmond,* 20 F. (2d) 929, 931.)

Defendants' main contention as to why the control shown by the diagrammatic drawing in the Parker patent, if literally followed, is inoperative is wholly based on the erroneous assumption of defendants' professional expert witness, *Doble,* (R. 449) that the rings g and g' of the selector are electrically connected by a single brush 34. A first year student in the electrical arts would know better. One may with equal justification argue that because a drawing of a side view of an automobile shows the wheels only on one side of the automobile none were intended to be used on the other side and that, therefore, the automobile is inoperative.

But even under Doble's erroneous assumption, while not an elevator engineer, he was forced to admit that if he found or it was demonstrated to him by a test that the

circuits should be separated, then he would separate them (R. 451). Thus, notwithstanding Doble's lack of knowledge of the elevator art, he admits that even he could correct the alleged assumed erroneous deficiency on which defendants mainly rely.

The real test to be applied, however, as laid down by the authorities (our main brief, p. 36) is, what does the Parker disclosure teach *skilled elevator engineers?*

Mr. Crabbe who has had to do with electric elevators for nearly thirty years testified (R. 147) that he

> "as an engineer could take the Parker patent and from it construct an elevator that would operate in the intended manner"

and that the Parker drawing is "schematic" and requires

> "a certain amount of knowledge of this class of work in order to correctly interpret them. The Parker patent discloses as much to me as an engineer concerning the principles of operation of the device as are disclosed in the schematic drawings of the defendants' installation." (R. 197) * * *

None of defendants' *elevator engineers* attempted to refute this or contend that the Parker patent does not disclose to them an operative device or that they could not as skilled elevator engineers with only the Parker disclosure before them construct an operative elevator embodying the Parker invention. Their appropriation of it in defendants' elevators shows how readily they used it after seeing the Otis Signal Control Elevators.

Mr. Sessions, a practical engineer of many years standing, having had actual experience with electric elevators (R. 522), testified that the structure disclosed in the

> "Parker patent is practical and operative";

that he

> "as an engineer would not have any difficulty in installing that structure in an elevator for commercial operation";

that

> "the Parker patent shows the apparatus and electrical connections in diagrammatic form. The electrical connections and the principle of operation are clearly shown and set forth in the specifications, and it is optional with the person who wishes to embody this invention to use any form of apparatus in which to incorporate the principles of the invention";

that he had

> "seen the device disclosed and described in the Parker patent installed in elevators. In the one instance it was installed in the Merchants National Bank Building at the corner of Seventh and Spring Streets" (this was an Otis Signal Control Elevator)

and

> "in another instance the Llewellyn elevators in the Pacific Finance Building" (defendants' elevators).

That he had

> "seen it embodied in high speed elevators in the Otis elevators in the Merchants National Bank Building and the Llewellyn elevators in the Pacific Finance Building," (Los Angeles).

that (R. 523)

> "the structure shown and described in the Parker patent is adaptable for use in connection with a bank of elevators if properly connected up"

that he has

> "seen it so embodied in both the Otis elevators and defendants'."

With respect to the point mainly relied upon by the defendants to show inoperativeness, Mr. Sessions testified (R. 525):

> "The rings *g* and *g'* are separate rings, insulated from each other, and carried by the selector plate S. In my opinion there is no reason to construe this construction in any other way. There are wires, one number 36, leading to the ring *g*, and number 36' leading to the ring *g'*. If the rings *g* and *g'* were to be electrically always connected together, as by the brush 34,

then there would be no necessity for running two wires 36 and 36′ to them. One wire would answer.''

Defendants, on pages 57 and 58 of their brief, advance the fanciful theory of inoperativeness by erroneously assuming for the Parker disclosure that the rings *g* and *g′* are electrically connected, contrary to the testimony of the skilled elevator engineers who testified on this point. Defendants' counsel concluded their discussion by citing Parker (R. 102) to the effect that if the rings *g* and *g′* on the floor selector are bridged by the brush 34 the car would stop. By referring to page 102 of the record, it is clear that all Parker intended to say was that by *assuming* a condition *set up by defendants' counsel in his question,* namely, that the ring *g′* was in electrical contact with the ring *g,* the car will stop, but Parker did not state that was the disclosure of the Parker patent, for on the very next page (R. 103) he said:

> ''The floor selector in this diagram is purely diagrammatical.
>
> ''It does not refer to any particular floor selector. * * * I assumed that some means in the floor selector for dividing the up and down circuits would be provided. If the circuits in the floor selector are separated so that the brush 34 doesn't contact the ring *g* and *g′* and the up and down contacts on the floor selector at the same time, the desired operation is still obtainable by the use of ordinary mechanism.''

It is perfectly obvious that the whole contention now urged by defendants' counsel in support of its defense of inoperativeness is based on assuming for the Parker patent an arrangement contrary to and diametrically opposed to what it discloses to skilled elevator engineers and contrary to the objects and teachings of the Parker patent. This is not the test which the courts apply in determining whether a disclosure is or is not operative. If it were few, if any, patents could withstand such a test.

Mr. Sessions further testified on this same point (R. 528):

> "The bridging of the rings at all times by the brush 34 would be equivalent to their being made in one piece. If they were to be bridged at all times, their purpose and functions would be destroyed, and there would be no object in showing two separate rings, if they were to be bridged at all times by an electrical conductor.
>
> "From my understanding of the Parker patent disclosure the stop buttons would not be reset by the contact piece 42 bridging 39 and 40 of the Parker patent and 39′ and 40′ by the handle 3 when the arm 41 was returned to central or neutral position, unless the rings *g* and *g′* are always connected together. As they are not connected together, there would be no danger of the bridging member 42 resetting the buttons in the way I have described."

and (R. 527)

> "From my understanding of the Parker patent, as an engineer, and whether the rings *g* and *g′* are always connected by the brush 34 or not, I would say if such were the case the entire pupose of the patent would be destroyed. The rings are shown as separate rings and conneced by separate wires, and they can only function if they are separate rings insulated from each other. So that there is only one conclusion to me as an engineer as to these rings, and that is that they are separate rings insulated from each other."

and (R. 531)

> "I do not find a second brush shown in the drawings of the Parker patent for the floor selector. It is called for in the specifications. It would be number 34′ if it were on the drawings.
>
> "Pointing out the reference to the brush 34′ in the specifications of the patent in suit, commencing with page 3, line 128, and running on to page 4, line 84, there is described in detail the construction of the up travel selector contacts. Then the paragraph that follows, commencing with line 84 and ending with line 100, reads as follows:
>
> > " 'I have thus described the complete secondary circuit controlling the automatic stopping of the elevator car during its ascending travel. It will

be understood that a similar secondary control circuit, employing similar devices for actuating the operative closing of the same, is provided for controlling the automatic stopping of the elevator car during its descending travel. In order to avoid repetition of description I have designated the wiring and parts of said latter or descending secondary control circuit as shown on the drawing, with the same reference numerals and characters to which, for the purpose of distinguishing the same from the ascending secondary control circuit and its parts, I have affixed the prime character.'

"That paragraph refers to similar parts, and consequently they cannot be the same parts, and parts referred to by the same letters with a prime character. Inasmuch as the system would be completely inoperative if there were only one brush 34, which contacted with both rings *g* and *g'*, and the primed and unprimed *f* contacts, the only conclusion that an engineer can draw at least the only conclusion that I can draw—is that there is another brush which, if shown on the drawings would be called 34'; and it may well be that that brush is hidden by the brush 34, in the drawings."

As heretofore pointed out in our main brief (pages 34 and 35) both Mr. Leonard Lyon's brother, Richard, and defendants' chief engineer, Baruch, fully understood the intended operation of the Parker disclosure and how it worked. It was not until years later, under the stress of litigation, that defendants' counsel attempt for the first time to assert that the *particular* diagrammatic drawing of the Parker patent (not his disclosure) is inoperative and this he can only find a pretext for asserting by construing, contrary to the elementaries of the electrical elevator art, the particular diagrammatic drawing in a manner diametrically opposed to what it discloses and what the undisputed testimony of the skilled elevator engineers in this case shows it discloses to them.

This sort of defense, though often urged, seldom succeeds, as the courts have repeatedly and uniformly held.

It was urged in the well known case of *Loom Co.* v. *Higgins,* 105 U. S. 580. The court there speaking through Mr. Justice Bradley in disposing of such contention, said at p. 586:

> "When the question is, whether a thing can be done or not, it is always easy to find persons ready to show how not to do it."

This language was quoted with approval by the Supreme Court in the *Telephone Cases,* 126 U. S. at page 536, in disposing of a similar contention.

In one of the leading cases of this court (*Von Schmidt* v. *Bowers,* 80 Fed. 121) the court, in holding the Bowers patent to cover an invention of a pioneer character and that the claims were entitled to a broad and liberal construction said, at page 150, in disposing of the contention of inoperativeness:

> "The contention on the part of counsel for the appellant that no successful machine can be built and operated in accordance with the complainant's patents is not at all supported by the record, which contains abundant evidence to the effect that machines have been so built, and have ever since been operated with very great success. The fact, if fact it be, that the first machine built by the complainant (called in the record the 'Davis Machine') was not successful in its operation, is unimportant. As was well said by the court in answer to a similar objection in the case of *Mergenthaler Linotype Co.* v. *Press Publishing Co.,* 57 Fed. 502, 506;
>
> > " 'It would certainly be a novel doctrine to deny to an inventor the fruits of a broad invention because the machine which first embodied it was rudimentary in character, and failed to do as good work as improved machines made subsequently. None of the great inventions could survive such a test. Ten years after the invention of Howe, the machine first made by him would hardly have satisfied the least exacting sewing woman. The Dodds and Stephenson locomotive would, only a short time after its construction, have been discarded as behind the age, even by the savages of Tasmania.

> The telephone of Bell is not the perfected telephone of commerce. The Morse telegraph is looked upon today as an interesting antique. And yet it would be an unheard of proposition to withhold from these illustrious men the credit they deserve because their machines were crude at first, and were improved afterwards.' ''

So here, the undisputed testimony of plaintiff's witnesses, *Sessions* and *Crabbe,* not only shows that plaintiff's signal control elevators which have been so extensively used, are made in accordance with and contain and embody the controls of the Parker patent, but not one witness on behalf of defendants attempts to refute this testimony. In addition the Master, after an examination of plaintiff's elevators and drawings thereof, found that the plaintiff's elevators embodied the Parker invention (R. 563). After describing the Otis Signal Control Elevators at the Pacific Telegraph Building in San Francisco, which is like the one previously installed at the Standard Oil Building in New York (R. 563) the Master says (R. 564):

> "In this structure is found (1) a circuit controlled by a car switch to start the car, (2) a holding circuit which maintains the running circuits independent of the car switch, and (3) secondary circuits with manual circuit closing means located in the car or at the landing and automatic circuit closing means on a selector, for interrupting the running circuit and stopping the car. As will later appear, these are the elements of the Parker invention. The conclusion is reached that as a part of the Pacific Telephone and Telegraph Company installation the plaintiff followed the teachings of Parker's disclosure. In commercializing their 'signal control' elevators the plaintiff has met with success. This success is due, in large measure to those features that resulted from Parker's disclosure."

Defendants' counsel likewise practically admits that the Parker patent disclosure is operative, for in answer to a direct question by the Master he says (R. 522):

> "It will perform just as it is shown there, but that

> is an impractical proposition. We are not raising any issue that the thing won't do anything at all. We are raising the issue or we are contesting the plaintiff's claim that the Parker system is the same as ours and will do what ours does."

Mr. Lyon thus admits that the disclosure is operative but his objection is that it will not do all the things claimed in the reissue or all the things claimed for defendants' system.

It is not a question of whether the particular diagrammatic showing of the Parker patent is highly commercial but whether or not the inventive concept illustrated and disclosed by the Parker patent is operative and useful. The law presumes it to be so until clearly proven otherwise. The defendants, in order to prevail, must clearly and definitely establish such defense. In this they have competely failed. Experts in the Patent Office in allowing the original patent and again allowing the reissue have twice held that the Parker disclosure is operative to accomplish the results claimed.

Both the Master and Judge James, in holding the Parker patent valid, have likewise held that the Parker disclosure is operative.

They all necessarily recognized that the diagrammatic drawings of electrical circuits and mechanisms in the Parker patent and the specification of the Parker patent amply show all that was necessary for those skilled in the electric elevator art to do just what Parker says he intended it to do, for otherwise the patent would nto have been *twice* allowed and later *twice* sustained; that it is operative is also fully sustained by the testimony of experts in the elevator art.

It is well understood that patent drawings are not required to be working drawings, but serve merely to convey the invention to those skilled in the art, this is especially true of all patents in the electrical art.

Imperfections in the diagrammatic drawings of an elec-

trical apparatus or electric circuits which do not affect the substance of the invention and which could be remedied by those skilled in the art, do not render the patent inoperative.

A well known illustration is the Bell Telephone patents sustained in the *Telephone Cases*, 126 U. S. 1, which has uniformly been cited with approval since by the Supreme and other courts. We called attention to this case at the argument.

The courts repeatedy and uniformly hold that patents are addressed to those who know the art, that is, skilled engineers in the particular art and if they can, even after trials and tests, with their knowledge of the art build and operate the device to carry out the invention or concept of the patent in the manner indicated by the patent, then the patent is not invalid for inoperativeness (see authorities cited page 36 of our main brief).

The law as laid down in these cases is well stated by Judge Thacher in *Radio Corp.* v. *Edmond*, 20 F. (2d) 929, 931:

> "A patented device is not inoperative because, when built or operated in a certain way, it will not work, if other ways of building and operating it are fairly indicated by the patent or the prior art. A patent is addressed to men who know the art, and if such men can build and operate the device, so that it functions as the patent says it will, although imperfectly and only after trial and error, that is enough. *A. B. Dick Co.* v. *Barnett* (C. C. A.) 288 F. 799, 801; *American Stainless Steel Co.* v. *Ludlum Steel Co.* (C. C. A.) 290 F. 103, 108."

Under this rule of law defendants themselves have completely disposed of their contention of inoperativeness for they have shown that an engineer *not skilled in the elevator art* (their witness Doble) if he found, or it was demonstrated to him, by testing, that the circuits should be separated, he would separate them (R. 451).

POINT II.

PARKER CONTROL ADAPTABLE TO BOTH HIGH AND SLOW SPEED ELEVATORS.

MEANS FOR DECELERATING HIGH SPEED, CAR SWITCH CONTROLLED, ELEVATORS WERE KNOWN TO ELEVATOR ENGINEERS AND USED IN THE ART PRIOR TO THE PARKER INVENTION.

Parker's pioneer control, as shown by the undisputed evidence, may be used with—

(a) slow speed elevators, and

(b) high speed elevators containing the theretofore known accelerating, decelerating and self-leveling means, as well as subsequent improvements.

For the defendants to say that there was no want, need or reason for the Parker pioneer control until after the development of the *present* slow-down mechanism of either the plaintiff or defendants, is absurd.

It is a matter of common knowledge that "car switch" controlled high speed elevators were in general use in skyscrapers, particularly in the metropolitan districts of the United States, long prior to 1920.

Mr. Crabbe, a skilled elevator engineer, connected with the plaintiff company continuously since 1904 (R. 141), testified (R. 264) that for a period of six years (prior to 1921) or possibly longer—

> "It was known that there was a want for a type of elevator that would function in the manner as shown by the Parker patent."

But notwithstanding the corps of skilled elevator engineers employed by the plaintiff, the leading electric elevator company (R. 265)—

> "No one to my (his) knowledge, in the Otis Elevator Company, had solved that problem previous to that time."

Notwithstanding Mr. Crabbe knew (R. 227) "that the *demand* * * * existed" for a control "where the car could be started and taken away from the operator and then stopped by pressing buttons in the hall," he was unable to solve the problem.

It was not until about *two years after* he learned of the Parker invention from Mr. Lindquist, Chief Engineer for the Otis Company, that the Otis Signal Control was installed in the Standard Oil Building in New York (R. 228).

Defendants' witness, DeCamp, admits that (R. 394) in 1921 he used a Ward-Leonard type of control for *leveling of high speed cars with main motor leveling* and that (R. 505)—

> "The Ward-Leonard system of variable voltage was a very old system prior to our development of our type of installation."

and that (R. 509, 510)—

> "in the Ward-Leonard system the elevator motor is driven in either direction by the controlling generator, and the speed of the motor is regulated by increasing or diminishing the voltage of the generator; the reversal of the direction of the current through the generator field windings causes the reversal of the direction of the rotation of the motor * * * as known by him previous to 1920."

Defendants' witness, De Camp, more specifically admits that the selectors, slow-down and Ward Leonard drive arrangement were old when he first came with the Llewellyn Iron Works in 1920 (R. 378).

Mr. Sessions testified (R. 538) that

> "the variable voltage of the Ward Leonard system is one which has an infinite number of steps, the voltage varying from zero to any desired amount in continuous increment."

Defendants' expert, Doble, testified (R. 422):

> "Defendants' Exhibit X-7, *H. W. Leonard, Patent February* 2, 1892, *discloses the use of the Ward Leo-*

nard controy system, which has been referred to so extensively in this case, and as applied for the control of an elevator both as to its direction of travel and the speed of travel. *This same general construction is in use at this date in modern manual controlled elevators.* The car is illustrated as D in Fig. 1, and the controlling lever as *b. The movement of this lever in one direction or the other starts the car, and accelerates it to full speed.* On approaching the landing *the speed of the car is decelerated,* and it is brought to rest by the position of the lever in neutral position. The car is controlled for the opposite direction of travel by a reversal of the direction of movement of the manual controlled switch lever. *It will be observed that this car is started, stopped and controlled for acceleration and deceleration from within the car.''*

Mr. Reed in referring to plaintiff's elevators, testified (R. 116) that he took over the Telephone Building in Seattle, in the middle of 1920, and operated it with plaintiff's manual controlled micro-self-leveling elevators, until November, 1924.

He further says (R. 121) referring to this same elevator construction that—

> ''The micro-drive is a self-leveling proposition that takes the human element out of floor landings completely. *The operator has to stop the car within the zone with the micro-drive.''*

He further says that these old self-leveling micro-drive elevators were operated at a speed of about 600 feet per minute (R. 124).

It was this Otis ''Car Switch'' Controlled High Speed Micro drive type of elevator with which Parker was familiar when he filed his application, for he testified (R. 108, 109):

> ''As to whether when I filed the application I knew of any form of slow-down or stopping mechanism for the elevator car which I could incorporate in this system or diagram, I knew that such mechanism was in existence, that is, mechanism in Otis elevators. It was

a mechanism that brought them exactly to the floor level.

"I knew that a system of relays could be installed that would bring about that result."

Mr. Crabbe testified (R. 205) that

"The Parker patent is something that is to be added to controls which already exist and those controls contain the means for stopping a car.

"It indicates the connection between the Parker patent and well-known control means for elevator cars."

And as to the old mechanism which he stated could be used with the Parker control he testified (R. 203):

"It was in public use on practically all standard Otis elevators."

In referring to the micro drive utilized by plaintiff he says (R. 210):

"The auxiliary motor micro is a device which is added to the main machine, although not structurally added. It is incorporated as part of the construction. It is a separate machine which drives the elevator at a slow speed. It is automatically controlled when the car is within a certain distance above and below the floor, *and comes into operation after the speed of the main elevator hoisting machine has been reduced.*"

Mr. Crabbe further testified (R. 208) that the Ward Leonard control is done by varying the voltage from the generator and that this system of control had been in existence for over 25 or 30 years; that in the Standard Oil installation in New York, the Otis Elevator Company used a multi-voltage system which while not as old as the Ward Leonard goes "*back beyond*" 1921.

An examination of the H. Ward Leonard patent (R. Vol. 3, p. 295) shows that the car is accelerated and decelerated by cutting out or cutting in resistance in the field circuit of the intermediate generators. Defendants' present elevators utilize this old Ward Leonard system for accelerating and decelerating and stopping its cars.

Mr. Doble testified (R. 406) that long prior to 1920, he had to do with and worked on the Ward Leonard system which was the first that he knew of being installed in California.

He further testified:

(1) That the Crouan patent (R. Vol. 3, p. 233) discloses deceleration and acceleration means (R. 463).

(2) That the McFeely patent (R. Vol. 3, p. 271) discloses deceleration means and braking means (R. 463).

(3) That the Ongley patent (R. Vol. 3, p. 283) discloses automatic deceleration means (R. 464).

(4) That the Buffington patent (R. Vol. 3, p. 311) shows deceleration and acceleration means (R. 464).

(5) That the Kammerer patent (R. Vol. 3, p. 361) shows an electrically controlled and operated elevator with special provision for deceleration and acceleration of the car so as to avoid shock (R. 464); and

(6) That the Ihlder patent (R. Vol. 3, p. 369) shows extra fields for controlling the stopping and starting of the motor of the hoist (R. 464).

Mr. Sessions testified (R. 538):

> "All of the Otis signal control installations are variable voltage systems. Variable voltage is a multiple voltage. A multi voltage system is one in which there are definite steps of increment of voltage applied to the circuit at considerable voltage value apart, for instance, 30, 60, 120, and 240. That is, broadly, a variable voltage system, but the variable voltage of the Ward Leonard system is one which has an infinite number of steps, the voltage varying from zero to any desired amount of continuous increment."

From this undisputed testimony it is clear that prior to the time Parker filed his application both forms of drive, including the Ward Leonard system used by the defendants in their infringing installation, were old and well known in the art and used for accelerating and decelerating as well as starting and stopping the car.

Parker fully appreciated this (R. 108, 109):

> "I knew the results could be obtained by relays but

> I do not know how in details. I could have worked out a mechanism that would be operative utilizing elementary electricity, but I relied on apparatus I knew to be in existence."

It is not surprising he so testified when the undisputed evidence shows that there were old and well known drives, such as the Ward Leonard, used in elevators for accelerating and decelerating as well as multi-voltage system undeniably used by Otis prior to 1921.

In view of this record, for the defendants to now come forward and say that there were no means for accelerating, decelerating, and self-leveling known prior to 1921 in the elevator industry, when as a matter of fact both plaintiff's and defendants' witnesses admit they were old, is inexcusable. Certainly they cannot be serious in this contention.

The Parker control is and has been used with both old types, not only the Ward Leonard system, but the undeniably old multi-voltage system of the Otis Elevator Company.

The fact, if it be a fact, that both plaintiff and defendants have since made improvements, advisable but not essential, for the use of the Parker control, only goes to magnify the importance of the Parker invention. It demonstrates that it can be used, as shown by this record, not only in slow speed elevators with ordinary braking mechanism but also with the Ward Leonard system of resistance control, the multi-voltage control known in the art prior to 1921, and also in connection with improvements since made. This is one of the tests of a *real invention,* which the courts should uphold and protect.

The Supreme Court in *Eibel* v. *Paper Co.,* 261 U. S. 45 (at p. 63) said

> "In administering the patent law the court first looks into the art to find what the real merit of the al-

> leged discovery or invention is and whether it has advanced the art substantially. If it has done so, then the court is liberal in its construction of the patent to secure to the inventor the reward he deserves."

The uncontradicted evidence thus shows that the identical drive and means for accelerating and decelerating used by the plaintiff in its signal control elevators, was known to elevator engineers and was in use "back beyond" 1921 (R. 208, 108, 109, 116).

There is not one particle of evidence to in any wise controvert these undisputed facts.

The statements running throughout defendants' brief that there were no means known for use in connection with high speed elevators for accelerating, decelerating or slowing down is based solely on the figments of the imagination of defendants' counsel.

It was understood by all at the trial that these things were old prior to 1921. Defendants did not even make an attempt to show the contrary. In fact, defendants' own witness, DeCamp, admits these things were old prior to 1921 (R. 378).

It is thus obvious why the Master who heard all the testimony said (R. 558):

> "It appears that Parker intended to use some system of slowing down, stopping, and leveling then in use that could be adapted to his control means. He knew that such systems existed but did not know of their specific structure and operation."

and (R. 562):

> "Most important to consider it the general condition of the art at the time of Parker's application. By this time engineers knew how to build elevators, which were started by an operator in the car and were stopped by the operator's throwing of the manual switch into neutral either in response to a flash signal from a landing or at the request of a passenger. The opening of the manual switch set up an elaborate

series of automatic operations which slowed down, stopped, leveled the car, and braked the mechanism. Practically all of these features are found in plaintiff's and defendants' present installations. Also available to the art were devices of the character of the Randall signal machine. (See patent of Smalley and Reiners, Exhibit X-11). These machines received signals from hall push buttons through the main signal panel and relayed the signals to the first car to approach the signalling floor in the direction indicated. The signal reached the car as a light flash. In response to the flash the operator manually operated the car switch to initiate the stopping of the car.

"In brief, the elevator art at the time of Parker's application had developed high speed elevators in which the starting and stopping were initiated by the operator's closing and opening a switch in the car in response to a signal from a hall button or the request of a passenger. Acceleration, deceleration, and leveling could be done automatically after the operator initiated the operation by his car switch. Selectors had been developed which would complete a circuit to stop the car."

The statement in Judge James' opinion that—

"No braking means were then in use which were adaptable to fast moving elevator cars and by means of which the car could be accurately leveled with a floor."

and—

"here it may be stated that neither the control system of Parker nor any of those included in inventions theretofore made were adaptable to the operation of fast moving elevators such as are necessary to be used in buildings containing many stories like the modern skyscraper." (R. 640)

is not supported by the evidence which the Master heard and refers to in his opinion. The uncontradicted testimony of plaintiff's and defendant's witnesses completely refutes Judge James' reversal of the Master's findings in these regards.

POINT III.

PARKER INVENTION OF GREAT UTILITY.

IT HAS HAD A REMARKABLE COMMERCIAL SUCCESS.

IT IS RESPONSIBLE FOR PLAINTIFF'S SIGNAL CONTROL ELEVATORS.

Defendants assert on page 9 of their brief that plaintiff gave no attention to the Parker invention until after it had "learned of the installation by defendants in Los Angeles of an elevator of the type complained of herein" and cites page 423 of the record. This statement is in no wise supported by the record. The facts are these.

In January, 1922, (R. 76) Mr. Parker called at the office of the Otis Elevator Company in New York and explained and submitted his invention to Mr. Lindquist, Chief Engineer of the Plaintiff company, leaving a copy of his patent application and drawings with him. Parker's purpose in so doing (R. 77) was to have the Otis Elevator Company take up his invention and put it in use. He was in no position to build them.

In May, 1922, (R. 77) Mr. Parker went to Europe. On July 15, 1922, he wrote (R. 77) the plaintiff company as follows:

"c/o Bank of New South Wales,
29 Threadneedle Street,
LONDON, E. C., 2 ENGLAND,
15th, July, 1922.

The Otis Elevator Co.,
11th Avenue and 27th St.,
New York City, U. S. A.
Attention Mr. Lindquist

DEAR SIRS:

Some six months ago I submitted for your consideration a patent* dealing with elevator control. Early

* He was evidently referring to his application for the Patent including the drawing which he had previously submitted to Mr. Lindquist. (R. 76.)

in May, just prior to my departure from the United States, I was informed by your Mr. Lindquist that the matter was receiving consideration, but that no definite decision had then been reached. May I ask if you have come to a conclusion yet? I should be glad if you would let me know the present status of the matter.

Yours faithfully,

(Signed) HUMPHREY F. PARKER."

It will be noted that this letter, sent in the ordinary course of business, states that "I was informed by your Mr. Lindquist that the matter was receiving consideration" and "that no definite decision had then been reached." In view of this undisputed evidence it is difficult to understand how the defendants have the temerity to assert that after the Parker invention was submitted to it in 1922, plaintiff gave it no further attention until after the defendants installed their automatic stopping elevators. There can be no doubt that it was given careful consideration and that within two years after it was submitted the plaintiff incorporated the Parker signal control in its elevators in the Standard Oil Building in New York, and that Parker's invention and disclosure formed the basis for plaintiff's "Signal Control" elevator business.

Mr. Crabbe, one of plaintiff's engineers who had to do with that installation, testified (R. 228) that for a number of years (R. 264) there was a want for such a control in the elevator industry and that he first heard of the problem being solved by Parker about two years before the Standard Oil installation when Parker's invention was explained to him by Mr. Lindquist.

Mr. Crabbe further testified (R. 264) that notwithstanding the corps of skilled elevator engineers of the Otis Elevator Company knew for at least six years prior to Parker that there was a want for a type of elevator that would function in the manner shown in the Parker patent, no one to his knowledge, in the Otis Elevator Company, had solved that problem.

So certain does the Parker control afford the foundation of plaintiff's Signal Control elevators as well as defendants' the *uncontradicted* and *undisputed* fact testimony from a practical elevator engineer of nearly thirty years' experience shows (R. 199)—

> **"Signal control is not possible without a device such as the Parker patent."**

There is not one line of evidence in the entire record to dispute this established fact.

> "There is a constantly increasing demand for the signal control. It is being accepted as the best or standard for the very highest type of buildings. This is due primarily to the satisfactory operation and the demonstration, by actual installation of the success of the type for the purpose for which it has been installed." (R. 60.)
>
> "The approximate sale of these signal control elevators by the Otis Elevator Company throughout the country since they were first put out" * * * up to April, 1929, were "about $33,000,000.00." (R. 59.)

When Parker submitted his application to Mr. Lindquist he showed him how to solve the problem. Thereafter in 1924, the plaintiff installed Parker's control in connection with elevators in the Standard Oil Building in New York.

The Parker control was applied to plaintiff's multi-voltage elevators. The undisputed evidence shows that these "Car Switch" controlled multi-voltage elevators were known "back beyond" 1921 (R. 208), and were in operation in the Telephone Building in Seattle as early as 1920. These also had means for accelerating and decelerating the car. (R. 116, 121.)

The Standard Oil installation in New York was made in 1924, long before defendants did any work along this line.

Shortly after trying out the installation in the Standard Oil Building the plaintiff, when next contacting Mr. Parker, September, 1925, after his return from Europe (R. 78), lost no time in consummating the purchase of the Parker

patent. This was for its own protection as it had utilized the Parker control after having it submitted to its chief engineer, Mr. Lindquist, and he had in turn explained it to other of plaintiff's engineers, about two years before the Standard Oil installation.

The purchase of the patent and the filing of the reissue application was completed long before defendants installed the elevators at the Pacific Finance Building and before plaintiff had any knowledge of any of defendants' work along the automatic stopping line.

There is no justification in the record for defendants' oft repeated statement that plaintiff purchased the Parker patent and reissued it after having knowledge of defendants' signal control installation.

Defendants cite the testimony of Gaylord as a basis for such assertion, but a reading of this testimony will show it is a far cry from establishing any such fact, but proves the contrary if anything.

Gaylord (R. 423) who was connected with the Elevator Supplies Company, testified that he furnished the signal selector for defendants' installation in the Petroleum Securities Building in 1925. He took a Mr. Keller and two other salesmen from the *branch office* of the Otis Elevator Company to the Petroleum Securities Building to show them the *selective signal system* which had to do with the signals and he "*thinks* they examined the other equipment in the penthouse in addition to what" he explained to them.

He said (R. 427) they were there about ten or fifteen minutes and that he took practically all that time to explain to them his signal equipment. Any inference that these representatives learned anything about defendants' automatic stopping push button controls is completely refuted by plaintiff's witness Keller (R. 512).

Keller testified (R. 513) that he went to the Petroleum

Securities installation with Gaylord, Sauter and Selenta to see certain equipment of the Elevator Supplies Company as Otis was figuring on using such equipment in an installation at Pasadena. The selective signal equipment is that equipment which is used to signal or to register the signals of the waiting passengers and that is the equipment they looked at. There is no testimony that they saw anything else that was there and there is no proof to show that there was any Automatic Stopping Control there on the occasion of this visit.

Keller says they saw nothing of the kind.

POINT IV.

IT IS NO CONCERN OF THE DEFENDANTS AS TO HOW MUCH PLAINTIFF PAID FOR THE PARKER PATENT. DEFENDANTS PAID NO PART OF IT BUT INSTEAD, AFTER ITS CHIEF ENGINEER, BARUCH, HAD LEARNED OF PLAINTIFF'S STANDARD OIL INSTALLATION EMBODYING THE PARKER CONTROL DEFENDANTS DELIBERATELY APPROPRIATED PARKER'S INVENTION.

Defendants' contentions in this connection are well disposed of by the Court of Appeals for the Sixth Circuit in *Troy Carriage Sunshade Co.* v. *Kinsey Mfg. Co.,* 247 Fed. 672, where the court, holding the patent there involved valid and infringed, said, speaking through Circuit Judge Denison (p. 676):

> "We find nothing of importance in defendants' favor to be drawn from the commercial history of the patent and the device. Plaintiff's manager devised a windshield and plaintiff put it on the market. It was sometime afterwards practically copied by the defendant. Plaintiff's manager undertook to get a patent on his construction, and failed to do so on account of the existence of the Lingley patent, disclosed to him in the Patent Office. Plaintiff then bought the Lingley patent, and continued to exploit the device commercially on a very large scale. If, as is held in the *Paper Bag*

Case, 210 U. S. 405, 28 Sup. Ct. 748, 52 L. Ed. 1122, a patent is not to be denied its reasonable and apparent validity and scope merely because its owner had deliberately withheld it from commercial use, much less can such denial be claimed, where the first owner, for unknown reasons, did not get it into public use, but where the second owner has put it into very general use. The fact that the second owner discovered the patent in the Patent Office and made the first move to buy it, and bought it for a small price, cannot be of much, if any, importance. The patent must stand or fall on its own merits."

POINT V.

NO INTERVENING RIGHT OR ESTOPPEL.

The proofs show that the defendants' installations, at the Pacific Finance Building in Los Angeles, complained of were not completely installed and ready for automatic stopping control until long after the filing of the Parker reissue application and after the allowance of the reissue patent by the Patent Office.

Defendants' witness DeCamp, after testifying that the first of defendants' elevators installed in the Pacific Finance Building was *operated on manual control* until March, 1926, the second until March 3, 1926, the third until March 27, 1926 and the fourth until May, 1926, was forced to admit (R. 392) that during the time these cars were operated as *manually controlled* cars

> "there were no push-buttons in the cars for automatically stopping the cars during that time."

Thus it is clear that the application for the Parker reissue patent was filed (November 13, 1925) months before any of these elevators complained of were complete and ready for automatic control.

De Camp further testified that he made or caused to be made drawings for the Pacific Finance Elevators after

Baruch, defendants' Vice-President and Chief Engineer, told him in October, 1925 (R. 396) that he wanted an *"Automatic Stop Control"* for those elevators and that he, Mr. Baruch, told him he had previously seen the Otis installation in the Standard Oil Building in New York City (R. 396).

Mr. Baruch, defendants' chief engineer, testified that he went over the Otis Signal Control installation in the Standard Oil Building in New York possibly in 1924 and that later, in 1925, during a conversation with Mr. Bradley of the plaintiff company, he was told by Mr. Bradley that the Otis Elevator Company "had just purchased" the Parker patent and that "it was being reissued" (R. 127). He further testified (R. 129) that in general he "understood the operation of the signal control system when" he "first saw it in the Standard Oil Building in New York" and that (R. 131) he did not remember whether or not he did or he did not tell Mr. Bradley that he had advised Llewellyn Iron Works to purchase the Parker patent.

It is therefore fair to assume that with knowledge of plaintiff's signal control installation the Llewellyn Iron Works proceeded to and did put out their infringing elevator because of "the necessity * * * of using" (R. 395) such control for the Pacific Finance Building.

The defendants in attempting to show an intervening right, offered some testimony concerning an installation made by the Llewellyn Iron Works in the Petroleum Securities Building.

On cross-examination defendants' witness De Camp testified (R. 395):

> "As to whether the automatic stopping control apparatus installed in the Petroleum Securities Building was ever paid for, I believe *that was purely experimental.*"

There is no adequate showing that the experimental in-

stallation in the Petroleum Securities Building ever embodied in regular operation, the Parker invention for otherwise there is no accounting for the testimony of Mr. De Camp when he testified (R. 399) that prior to making the drawings for the Pacific Finance installation *he had never seen a drawing or description of any devices or elevators which were started only by an attendant operating a switch within the car and which could be automatically stopped either by pushing buttons within the car or from the landing and the starting could not be done from the push buttons.*

Mr. De Camp did very definitely testify (R. 373) that in the Pershing Square Building they had an experimental layout in which the car was to be stopped automatically by throwing the car switch to neutral position in the zone preceding the slow down and stopping zone and that this was called "automatic slow down and stopping" and that (R. 374) "this scheme of automatic slow down and stopping was later incorporated in the Petroleum Securities car."

This character of stopping from the car switch was a manual control of both starting and stopping.

It is further demonstrated by the testimony of De Camp (R. 375) what was meant by this slow down machine which was being investigated for when he produced the drawings which are alleged to be for the Petroleum job he says Defendants' Exhibit S-1 shows a section of *slow down and leveling machine,* and (R. 376) defendants' Exhibit S-3 covers details on the cam-closed switches for the automatic stopping and slow down machine of his *manually controlled stopping* by the actuation of the car switch.

He then goes on to produce certain diagrams marked Defendants' Exhibits S-5, S-6, S-7, S-8, and S-9, but he does not explain these drawings or say when, if at all, the particular circuits there shown were incorporated in the

Petroleum installation. He does say (R. 377) that the function of the selector or signal machine used in this installation, was to illuminate the lanterns in the halls in front of the elevators to indicate to the waiting passenger that the car was approaching his landing, and *also to light an operator's car flash* at approximately one and a half or one and three quarters floors preceding the stop at the landing, *to indicate to the operator that he was to make a stop at the landing.* This can only mean manual car switch stopping.

He then goes on to say that later (R. 378) the set up was changed so that the car functioned to stop automatically in response to the hall buttons, but he does not testify when this was done. He does, however, say (R. 378) the No. 4 car was turned over for regular passenger use equipped with automatic stopping by a test which (R. 379) he says was made on August 4, 1925. He does not even state that at that time this car was equipped with controls whereby the car could only be started by the operator in the car and stopped automatically by pushing buttons either in the car or on the landings.

The fact that he says the car was turned over with "automatic stopping" means nothing for as we have pointed out what he meant by "automatic stopping" (R. 373) is one in which "the car was to be stopped automatically *by throwing the car switch* to neutral position in a zone preceding the slow down and stopping zone," which he called automatic leveling or automatic slow down and stopping.

Had there been an adequate showing that the *single* installation in the Petroleum Securities building in 1925, embodied the Parker invention (which there was not) the installation was admittedly "*purely experimental.*" The apparatus was in no wise sold; it was in no wise put on the market; no part of any installation showing any automatic stopping control was disclosed to the plaintiff or to the pub-

lic nor was there any knowledge of any automatic stopping control means brought home to the plaintiff or any of its representatives until after the completion of the Pacific Finance installation, subsequent to the grant of the Parker reissue patent.

The asserted proof concerning this "purely experimental" installation at the Petroleum Securities building utterly fails to establish an intervening right or estoppel even if defendants had been in a position to urge such a defense here, which they are not, having been infringers of original claim 3 from the outset.

The situation here is not to be confounded with cases where the defendant innocently and in good faith put on the market commercially a device which was entirely outside of the original patent and infringed none of the claims and was only converted into an infringement by the plaintiff subsequently, with full knowledge of defendants' device, obtaining through reissue, broad claims to cover such device.

The first eleven claims of the Parker reissue patent are identical with the claims of the original patent. The specification and drawings are identical.

The claims obtained by reissue which do not appear in the original patent make no attempt to cover any different or other invention than that disclosed in the original patent, but more adequately express that invention.

The application for the reissue was filed less than fifteen months after the grant of the original and well within two years. (*Topliff* v. *Topliff*, 145 U. S. 156, 170.)

There is no showing whatever that these defendants, or either of them, innocently and in good faith, or otherwise, put on the market commercially, or into established commercial use automatic stopping elevators which did not infringe the original patent and which infringed the reissue

only. On the contrary the proofs show that it was after defendants' chief engineer, Baruch, saw and examined plaintiff's signal control elevators embodying the Parker control in the Standard Oil Building in New York that he suggested using circuits and push buttons for automatically stopping the car but which was manually started only by the operator in the car (R. 378, 395, 396). The burden is on the defendants to make such showing by clear and satisfactory evidence in order to present an intervening right or estoppel if they were in a position to do so, which they are not.

There is no showing whatever that the plaintiff had any knowledge, prior to the grant of the reissue, of the "purely experimental" work, which is asserted was done in 1925 or that it was done openly and with full notice to the public so that knowledge could be imputed to the plaintiff, such as sometimes happens where a device is put on the market openly and extensively.

On the contrary, the evidence tends to show that whatever, if anything, was done at the Petroleum Securities Building in 1925, beyond manual operation of the car switch in both starting and stopping, was secretly done and covered with a hood. (R. 513, 546, 547.)

Mr. Parker, patentee who owned this patent until about the time the reissue was filed, testified that he knew nothing about any work of the Llewellyn Iron Works, had never heard of it until shortly before he testified in this case (R. 80).

Defendants' lame attempt to inferentially impart knowledge by calling its witness Gaylord of the Elevator Supplies Company who testified (R. 423) that he took three of the Otis salesmen from plaintiff's Los Angeles branch to the Petroleum Securities Building to see the *signal machine* which he (Gaylord) was selling and he *thought* while they were there they casually examined other equipment, was completely exploded by plaintiff's witness Keller (R. 513).

Again the defendants have set forth in their brief entirely misleading statements of the facts testified to by Gaylord and Keller.

Gaylord, who was employed by the Elevator Supplies Company, testified that he had sold to the Llewellyn Iron Works for use on the elevators in the Petroleum Securities Building certain "signal equipment" (R. 423) which (R. 424) "had to do with signals" that he took Sauter, Keller and Selenta, salesmen at the Los Angeles branch of the plaintiff Company (R. 423), over to the installation (R. 426) because Mr. Sauter requested to see the signal equipment; (R. 427) that he primarily explained this signal equipment as it was a new development of Gaylord's company and naturally that is what he was interested in explaining; that these were signals that indicated to the passengers the approach of an elevator and the signals which indicated to the operator that a call has been initiated and that the car is to stop and take on passengers at a landing; that they had nothing to do with the automatic stopping of the car through the pushing of buttons within the car; that they were there about "ten or fifteen minutes" and Gaylord "took practically all of that time in explaining" his signal equipment; that (R. 424) he "*thinks* they examined other equipment in the penthouse."

He further testified (R. 428):

> "I do not remember that the car was stopped by any hall buttons while it was being operated on the occasion of our examining that structure. I do not remember whether there was any comment about that during the time we were there."

It is on the testimony of this *single* witness, who is not able to testify that these salesmen were shown or even told there was an installation in the Petroleum Securities building, which was provided with control means whereby the car was automatically stopped from push buttons in the car or at the landings and manually started by the operator

in the car, on which defendants attempt to base their alleged intervening right. There is not the slightest intimation that these salesmen ever passed on any information to their superiors of even the signal system much less the automatic stopping control.

Keller, one of plaintiff's employes referred to by Gaylord, was called as a witness on behalf of plaintiff (R. 512). He testified that he went with Gaylord together with Salenta and Sauter to examine equipment manufactured by the Elevator Supplies Company (R. 513) which was proposed to be used on a job in Pasadena, and looked over the master signal equipment, that is, equipment to register, *in the car,* the signals of the waiting passengers.

He further testfiied (R. 513) that they went up into the penthouse and casually saw a number of machines, and that they saw a metal hood covering some appliance and was informed by Gaylord that it was some new device that the Llewellyn people were experimenting on but that he did not know much about it, and that was about all that occurred. (R. 514.)

Keller further stated that they were not in the penthouse over five or ten minutes, and that they came down in elevator No. 4, but he does not think it was operating on any push button system at that time which (R. 516) occasion was probably early in July, 1925.

He further testified that (R. 517) they "heard a clacking noise in something" and inquired of Gaylord what it was, but "he did not tell them it was some new equipment for automatically stopping the No. 4 car". He simply said it "was some new device that Llewellyn was trying out," that he did not know much about it; and he "did not show them the two wires that led from the selector machine over to the hoisting equipment of the No. 4 car. I am positive of that." (R. 518.)

The testimony of this witness further completely con-

tradicts the assertion in defendants' brief that these salesmen on that occasion saw or examined the control whereby the car could be started by the operator within the car but could be automatically stopped by push buttons either in the car or at the landings or that they were informed such control was there utilized.

Obviously if they did not know there was any such control there and they were not informed there was they could not possibly pass the information on to their superiors.

Defendants in their brief make some comment to the effect that the two salesmen, Sauter and Selenta, were not called. Obviously there was no reason for calling them if available as there was nothing to refute.

There is not a single witness supporting the extravagant statements in defendants' brief at pages 210 and 211, in their desperate attempt to bring home notice to the plaintiff that there was utilized in the Petroleum Securities No. 4 elevator or any other elevator there, a control whereby the car could be started only by the attendant in the car but could be automatically stopped by pushing buttons either in the car or at the landings.

Defendants' positive statements on this point are a fair example of many unwarranted statements in their brief.

Defendants' in their brief (p. 208) say:

> "Defendants' allegedly infringing elevator system was installed in No. 4 car of the Petroleum Securities Building and placed in operation on August 4, 1925 (R. 375)."

This statement is not supported at page 375 of the record or elsewhere.

Defendants' counsel further says on the same page of their brief—

> "The elevator was independently designed by Messrs. Baruch, De Camp and Walker of defendant,

> Llewellyn Iron Works, without any knowledge of the original Parker patent (R. 127, 138)."

Likewise this statement is not supported on the cited pages of the record or elsewhere, but on the contrary, defendants' chief engineer, Baruch, admits he had seen and examined plaintiff's signal control elevators prior to the time defendants equipped any of their elevators with circuits and mechanisms whereby the car could be started only from within the car by the operator and whereby the car was automatically stopped by push buttons either in the car or at the landings without any action on the part of the operator after the starting mechanism had been thrown in operation (R. 395, 396, 398). In fact defendants' witness, De Camp, admits (R. 378):

> "I believe Mr. Baruch suggested the idea of using the existing signal system for the purpose of automatically slowing down and stopping an elevator car."

Defendants' counsel attempts to leave the impression that the drawings of the proposed Petroleum Securities installation, submitted by Baruch to Mr. Leonard Lyon's brother, Richard, was directed to the control here charged to infringe, but when we examine the testimony of their own witnesses it becomes apparent what they there meant by the term "automatic stopping elevator."

Defendants' witness, De Camp (R. 373) after producing drawings alleged to pertain to the Petroleum Securities installation, said:

> "What I produced a little while ago was a drawing of an experimental layout, in which the car was to be *stopped automatically by throwing the car switch to neutral position* in a zone preceding the slowing down and stopping zone.
>
> "It is called *automatic* leveling or automatic *slow-down and stopping.*"

It is thus clear that De Camp used the term "automatic slow down" or "automatic stopping" to include a set up

by which the car was stopped by throwing the car switch to neutral position, that is *a manual control.*

De Camp further testified (R. 373):

> "The drawing was made under Mr. Walker's direction, and I saw it when the drawing was made in July, 1924.
>
> "This arrangement was embodied in an experimental installation at the Pershing Square Building in Los Angeles."

(R. 374):

> "The purpose of this experiment was to automatically slow-down and stop a high-speed elevator car, that is, a car running say 600 feet per minute, in steps of diminishing resistance to bring the car to a level with the landing.
>
> * * * * * *
>
> "*This scheme* of automatic slow down and stopping was later incorporated in the *Petroleum Securities car* and the *Pacific Finance car.*"

It is thus apparent that when defendants' witness De Camp refers to defendants' automatic stopping elevator he includes those *prior* to the Pacific Finance installation which were started and stopped by the operator manipulating the switch in the car for controlling both the starting and stopping, that is, *a manual control.* He does not limit his designation to defendants' elevator control, alleged to infringe, in which the starting was initiated solely by the attendant operator in the car and the stopping was automatically initiated by pushing buttons in the car or at any one of the various landings.

It is also clear that it was this "automatic slow down stopping arrangement" whereby "the car was to be stopped automatically by throwing the car switch to neutral position in a zone preceding the slow down and stopping zone" to which Mr. Lyon's brother directed his attention in 1925 at the request of Mr. Baruch. Mr. Richard Lyon says Mr. Baruch showed him (R. 492) "a drawing of an

automatic stopping elevator, which'' he ''understood'' Baruch ''was constructing.'' Before examining the file history of the Parker patent he told Mr. Baruch (R. 493) orally ''that the structure that they intended to put in was not an infringement of the Parker patent,'' but the thing he thought was not an infringement was the *slow down machine,* and not the control here involved.

On cross-examination Mr. Richard Lyon was forced to admit that he did not write any letters concerning the Parker original patent and that after a thorough search he was unable to find (R .495) ''any letter in which there is an opinion on the Parker patent.'' He further admitted there is nothing in writing relating to the Parker patent. ''I did not make notes at the time or file my own notes.''

It is further clear that the only thing he looked into for Mr. Baruch was with respect to the automatic stopping machines, *manually controlled from the car switch,* referred to by Mr. De Camp, as heretofore pointed out, for on further cross-examination Mr. Lyon was forced to admit (R. 495):

> ''The opinion that we prepared or what Mr. Baruch particularly requested from me, was an opinion as to this *automatic stopping machine* that he designed, and this Parker patent I found in the files as an incident to that, and he wasn't much interested in it when I showed him what it was; so we didn't write any written opinion on that, but the written *opinion all dealt with the automatic stopping.''*

In fact Baruch says (R. 138) the investigation was ''on the matter of *accurately landing the cars.''*

By keeping in mind De Camp's definition of a *car switch manually* controlled, automatic stopping elevator and by reading the testimony of Mr. Lyon's brother, it is thus clear that all he was requested to investigate by Mr. Baruch was the slow down *stopping machine.* This had nothing to do with the Parker invention which defendants are here

charged with using. The Parker patent was given very little consideration.

On page 210 of their brief defendants say:

> "Based on the successful demonstration with the No. 4 car in the Petroleum Securities Building, and in accordance with the opinion of its attorneys that the system involved no patent infringement, the defendant Llewellyn Iron Works secured the contract for installing the allegedly infringing elevators in the new Pacific Finance Building."

and cites in support of this statement page 131 of the record. Neither that page nor elsewhere in the record is there any support for such statement.

There is not a line of evidence throughout the entire record that the No. 4 installation in the Petroleum Securities Building was ever successfully operated with the control here charged to be an infringement.

There is not a line of evidence in the record that defendants' counsel ever gave an opinion prior to the grant of the Parker reissue with respect to the control means utilized by the defendants whereby the car could be started only by the operator in the car and automatically stopped in response to pushing buttons either in the car or at any one of the landings. On the contrary there is some testimony that while investigating defendants' car switch manually controlled automatic slow down and *stopping machine,* the Parker patent was incidentally considered and some sort of an oral opinion given. There were no letters, records or data of any kind that could be produced showing what this was. Later on after the Parker reissue patent was granted and after the defendants had equipped the Pacific Finance installation with the Parker control a written opinion (R. 495) was given in April or May, 1926, by Mr. Lyon's father which opinion they refused to produce.

MASTER CLEARLY RIGHT IN HOLDING AS A MATTER OF FACT NO INTERVENING RIGHTS BETWEEN DATE OF ORIGINAL PARKER PATENT AND THE APPLICATION FOR ITS REISSUE AND THAT NO ESTOPPEL EXISTED.

The Special Master, who heard all the testimony, and saw the witnesses on the stand, found from the evidence that the defendants had failed to establish any intervening right or estoppel. On this point he found as stated in his report (R. 588)— —

> "Intervening Rights and Estoppel. The evidence shows that the original Parker patent, No. 1,506,380, was issued August 26, 1924, and that the defendants completed an experimental elevator, using a system of control similar to that found in the Pacific Finance installation on or about August 4, 1925. The working drawings for the Pacific Finance installation were finished October 22, 1925, and the first car was installed and ready for operation on March 4, 1926. The whole installation was complete and ready for automatic operation on May 11, 1926. On November 13, 1925, the plaintiff herein, who, in the meantime, had acquired title to the original patent, applied for a reissue patent No. 16,297, which was issued March 23, 1926. With the exception of claim 3, all the claims in issue were allowed in the reissued patent. The Vice President and Chief Engineer of the defendant, Llewellyn Iron Works, Milton Baruch, was informed of the intention to apply for a re-issue by the plaintiff during November or December, 1925. The plaintiff did not acquiesce in defendants' manufacture and use of their control system. They applied promptly for a reissue. The defendants continued their work after knowledge of the patent and, further, after Mr. Baruch knew of the intention to apply for a re-issue. The facts do not bring the case within the rule of any of the authorities cited by the defendants. The master considers the whole question to be immaterial, in that the re-issued claims in issue, with the exception of Claim 22, have no greater scope than Claim 3. Further, the infringement found as to Claim 3, if not in error, is decisive."

The Master was clearly right in holding that the defendants had failed to establish facts to bring their alleged intervening right within any rule of law recognized by the courts.

The Master's *findings of fact* on the defense of intervening rights were confirmed by the lower court who held each of the claims valid over this defense. It is the duty of this Court to accept those findings unless they were clearly erroneous which they are not.

Defendants' whole argument on alleged intervening rights and estoppel is refuted by the evidence which satisfied both the Master and the lower court that Parker was entitled to both the original and reissue claims, the invention illustrated and described in both the original and reissue being identical.

In *Howe Machine Co.* v. *Coffield,* 197 Fed. 541 (C. C. A. 4) the defendant, attempting to establish an intervening right, was privy to a limited and intermediate manufacture and sale of an article which was only brought within the patent by the reissue claim. The court, after referring to the fact that this manufacture was not in any "substantial sense put upon the market before the complainant applied for its reissue" disposes of such proof when it said (p. 547):

> "In the atmosphere of a court of equity it usually takes longer than seven months and sixteen days for intentional wrongs to ripen into intervening rights."

This clearly indicates that the comparatively short sporadic "experiment" of the Llewellyn Iron Works, if it related to a device exhibiting the same invention as the reissue claims, and not the original claims is insufficient to create an estoppel, much less the incomplete, noncommercial experimental installation which the defense is claiming as intervening rights. There is no proper proof here of this "experimental installation" which the defense is claiming

as an intervening right. There is no proper proof here that this "purely experimental" installation, even if it had been proved beyond a reasonable doubt, which it was not, exhibited the invention of any of the claims here asserted.

In *Baldwin* v. *Abercrombie,* 227 Fed. 455 (Aff. 228 Fed. 895 C. C. A. 2) the application for reissue was filed February 5, 1913, about seven years after the grant of the original patent. The late Judge Mayer held the reissue patent there involved, valid and infringed. After referring to the fact that the defendant sold its first alleged infringing lamps in July, 1911, he stated at page 459:

> "But there is no testimony showing that knowledge of such sale came to plaintiffs."

The court thus recognized that intervening rights are governed by the ordinary law of estoppel and that the alleged intervening rights to be availed of, must either be carried on so openly and extensively that plaintiff was bound to know about them, or that plaintiff had full knowledge of the alleged intervening rights and that after having such knowledge acquiesced in it thus misleading the defendant into establishing a business which otherwise it would not have established.

There is not a line of evidence in this record to show that the Otis Elevator Company, prior to the issuance of the reissue patent in suit, had any knowledge of the asserted "purely experimental" installation of the Llewellyn Iron Works.

The Supreme Court in the *Abercrombie case,* 245 U. S. 198, in referring to the lower courts holding the Baldwin reissue patent valid and infringed, said at page 209:

> "To the contention that the Justrite Company, the manufacturing defendant, acquired rights before the reissue we again may oppose the reasoning and conclusion of District Judge Mayer and their affirmance by the Circuit Court of Appeals. The learned judge said: 'It will be remembered that this company en-

> tered the field with its lamp at a time when the validity and scope of the Baldwin patent were still unquestioned and when after some five years of capable effort, the Baldwin lamp had created an extensive market. The Justrite Company took its chances and, in view of the necessities of the situation, it is relieved of all accountability for the period prior to the granting of the reissue patent; but when the reissue was granted the Justrite Company again took its chances.' ''

Probably the leading case on reissue in the Ninth Circuit is that of *Woolwine Metal Prod. Co.* v. *Boyle,* 279 Fed. 609. The appellee Boyle had manufactured canteens since 1899. July 15, 1916, he applied for patent for a perfected type and the patent was issued June 19, 1917, having one relatively narrow claim limited to strap keepers secured in a particular way. In July, 1917, within a month after the patent was issued, the appellant put on the market a canteen for which one Frey applied for patent the same month. It was granted to him in October, 1918, and was assigned to appellant the same day. In November, 1917, Boyle started suit for infringement of his patent and in March, 1919, the bill was dismissed for non-infringement. Promptly afterwards, within six weeks Boyle applied for a reissue of his patent in said suit, the reissue being granted in July, 1919. It contained the original claim and five new claims which were not limited to the particularities of the one claim of the original patent, and although the appellate court in its opinion said that the identification in the new reissue claims, instead of broadening the original claim had the effect of narrowing it to more accurate description, the five new claims of the reissue were upon their faces broader than the original claim. The appellant continued manufacture of the canteen freed under the decree of the lower court in the first suit and in August, 1919, Boyle, the appellee, commenced suit on same against appellant under the reissue patent, withdrawing the charge of infringement

of the one claim of the original patent. In September, 1921, a decree was entered for plaintiff-appellee sustaining the validity of the reissue patent and finding all the new five claims infringed. From that decree the appeal to our appellate court was taken.

From the above it appears that defendant-appellant put its canteen on the market within a month after the original patent was issued and about a year and three-quarters before the reissue application. It contended in the suit under the reissue patent that it had intervening rights as the decree in the original suit made it *res adjudicata* that appellant-defendant had not taken the invention of Boyle. It was contended on the trial and appeal under the reissue patent that new matter had been injected into the reissue patent. On the reissue application, it remains to be said, the opinion of the trial court in the original suit was made a part of the papers, in support of the insufficiency of the original patent. The Frey application, filed before the first suit was started, was for elements as shown in the drawings of plaintiff's original patent, including features claimed in the reissue patent. Features were played up in the reissue claims which did not find expression in the claims of the original patent.

On this state of facts, with both the defendant's canteen and its patent application *in esse* prior to the first suit, our Circuit Court of Appeals by the learned Judge Morrow, citing *Topliff* v. *Topliff,* 145 U. S. 156, said with respect to sameness of invention and absence of intervening rights, page 612:

> "We are of the opinion that the reissue patent in this case is for the same invention for which the application was made for the original patent; that the specification as originally drawn was defective and insufficient in describing the details of construction as shown by the drawings; that the original claim was likewise defective and insufficient, and did not fully cover the

elements of the invention; that these errors in both the specification and claim arose from inadvertence and mistake; and that the patentee was guilty of no fraud and deception in the application for reissue. We have stated the proceedings in the court and the terms of the decree under which the errors in the specification and claim were discovered, from which it appears that due diligence was exercised in discovering the mistakes in the original patent and in bringing them to the attention of the patent office authorities. We are of the opinion that the proceedings before the Commissioner of Patents and the application for reissue were in all respects regular and within the power and authority of that officer.

The five additional claims in the reissue patent need not be repeated here. They identify the various elements of the invention, following more accurately the details set out in the drawings and in the amended specification. This identification, instead of broadening the original claim, has the effect of narrowing it to a more accurate description of the actual invention.

The interlocutory decree of the District Court provides that the plaintiff (appellee) recover of the defendant (appellant) the profits and damages caused by defendant's infringement of the reissued patent subsequent to August 8, 1919. As the reissued patent is dated July 29, 1919, and this suit was commenced on August 15, 1919, we do not find that the defendant acquired any intervening rights as against plaintiff's rights under the reissued patent. *Abercrombie & Fitch Co.* v. *Baldwin,* 245 U. S. 198, 209, 38 Sup Ct. 104, 62 L. Ed. 240.

The decree of the District Court is affirmed."

Even if the Llewellyn Iron Works had, prior to the application for reissue, manufactured, sold and put upon the market the automatic stopping control elevators here complained of in a substantial way (which admittedly it did not) it further would avail it nothing as its installations infringe claim 3 of the original patent here asserted and it would have "entered the field" with its automatic stopping control elevators "at a time when the validity and scope of

the'' Parker ''patent were still unquestioned'' and after the plaintiff had created a demand for the Parker invention.

In *Traitel Marble Co.* v. *Hungerford Brass & Copper Co.,* 18 F. (2d) 66, the Court of Appeals for the Second Circuit (Manton, Hand and Swan, Circuit Judges) in disposing of the usual defenses to a reissue patent and holding the reissue patent there involved valid and infringed said at page 69:

> ''There could be no intermediate rights acquired in the face of a valid patent adequately claimed.''

Neither of the defendants here can claim that after the reissue they acquired any rights because of the original patent was inadequate to cover the automatic stopping control elevators experimentally installed by the Llewellyn Iron Works in 1925. On this point the language of the Court of Appeals for the Second Circuit (*Iowa Washing Mach. Co.* v. *Montgomery Ward & Co.,* 234 Fed. 88) is apposite. It said (p. 89):

> ''We are unable to find that any rights were acquired by the defendant because of the inoperative claim of the original patent. Its act was an open appropriation of the complainant's property when the expiration of prior patents enabled it to use the machines of those patents legally if it had desired to do so. Instead of using the prior art machines it copied all the valuable features of the patent in suit. The defendant acquired no rights based upon the original patent. It began its infringement after the reissue and cannot successfully contend that it invested its money relying upon the invalidity of the patent, or the insufficiency of the claim properly to protect the invention. It entered the field deliberately and with full knowledge of all the facts.''

Forfeiture by estoppel involves default on the part of a plaintiff having knowledge of the facts out of which the estoppel grew, and the further fact that the defendant was acting in good faith having been misled to his injury by

plaintiff's acquiescence in what he knew defendant was doing or by his failure to promptly assert adverse claims of right when informed of defendants' action.

Estoppel involving forfeiture of right is not to be favored where there is no actual wrong done by plaintiff and where the plaintiff has acted within his statutory rights, and deceived nobody, and when he has not remained silent while others, with his knowledge were innocently building up adverse rights.

In *Brant* v. *Va. Coal & Iron Co.*, 93 U. S. 326, the law of equitable estoppel is thus stated:

> "For the application of the doctrine of equitable estoppel, there must generally be some intended deception in the conduct or declarations of the party to be estopped, or such gross negligence on his part as amounts to constructive fraud, by which another has been misled to his injury.
>
> "Where the estoppel relates to the title of real property, it is essential to the application of the doctrine, that the party claiming to have been influenced by the conduct or declarations of another was himself not only destitute of knowledge of the true state of the title, but also of any convenient and available means of acquiring such knowledge. Where the condition of the title is known to both parties, or both have the same means of ascertaining the truth, there is no estoppel."

In *Ketchum* v. *Duncan*, 96 U. S. 659, the court said (p. 666):

> "An estoppel *in pais* does not operate in favor of everybody. It operates only in favor of a person who has been misled to his injury, and he only can set it up."

Again in *Morgan* v. *R. R. Co.*, 96 U. S. 716 (p. 720):

> "He is not permitted to deny a state of things which by his culpable silence or misrepresentations he had led another to believe existed, and who has acted accordingly upon that belief. The doctrine always presupposes error on one side and fault or fraud upon the

other, and some defect of which it would be inequitable for the party against whom the doctrine is asserted to take advantage."

Defendants here are in no position to set up intervenings rights if they existed (which they do not) for their infringing installations apparently resulted from suggestions of Mr. Baruch, chief engineer for the Llewellyn Iron Works who had previously seen plaintiff's signal control elevators in the Standard Oil Building in New York City, and plaintiff's patent. *Coffield* v. *Howe,* 190 Fed. 42, 47 (C. C. N. D. W. V.) Aff'd 197 Fed. 541 (C. C. A. 4); *Alberger Gas Engine Co.* v. *Ross Heater & Mfg. Co.,* 285 Fed. 35, 39 (D. C. W. D. N. Y.).

CASES CITED BY DEFENDANTS NOT APPLICABLE.

The defendants in their brief refer to the Ashland Fire Brick case in the Sixth Circuit, the Keller case in this circuit and others, but none of them has any application here—

First, because in the cited cases, an intervening use was definitely and clearly established by proper proof, and

Second, the thing on which the intervening use was based was not an infringement of the patent asserted but was only brought within the patent by the reissue claims.

Here the defendants have utterly failed to establish by proper proof intervening use of anything much less the control here involved.

The Master and the lower court with the full facts before them have so held. Had an intervening use embodied substantially the same control as here alleged to infringe (of which there is no proof) then the defendants were guilty of a tort from the outset and cannot, in a court of equity, set up an estoppel based on a wrong. This well established rule of law is admitted by defendants. (Brief, p. 208.)

POINT VI.

DISCLAIMER.

Defendants' contention with respect to their assignment of error (R. 659) that—

> "The court erred in denying the motion of defendants to dismiss the bill of complaint herein on the ground that plaintiff unduly delayed in filing its disclaimer as to claim 37 of said reissue letters patent."

briefly summarized are:

(1) That no exception having been taken to the Master's report, plaintiff was under obligations to file its disclaimer immediately upon the filing of the Master's report; and

(2) That the lower court was wrong in holding (R. 633):

> "Where no *final decree* is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim."

and—

> "There was *no decree* interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, * * * the matter remained at large and the commencement of the reasonable time within which the plaintiff might disclaim would be the *entry of such decree.* I am, therefore, of the opinion that the motion to dismiss should be denied, and it is so ordered."

Supplementing what we have said in our original brief, we propose to further answer these two propositions specifically.

DISCLAIMER POINT I.

EXCEPTION NO. 3 (R. 592) TAKEN BY THE DEFENDANTS REQUIRED THE COURT TO PASS UPON THE VALIDITY AND INFRINGEMENT OF CLAIM 37 IF THIS CLAIM HAD NOT, PREVIOUS TO THE DECISION OF THE COURT, BEEN DISCLAIMED BY PLAINTIFF.

The defendants take the position that because plaintiff filed no exception to the Master's report his conclusion of law became final as to claim 37 and the lower court could not pass upon the questions of

(1) whether claim 37 was sufficiently definitive under Section 4888 of the Revised Statutes,
(2) whether it was valid, or
(3) whether it was infringed.

We insist that there is no basis for any such contention, because *an exception was filed by the defendants* themselves, which required the trial court to determine the validity and scope of claim 37, had the plaintiff (five months previous to the lower court's decision) not filed its disclaimer.

Defendants' assignment, which would have required the lower court to pass upon the validity and infringement of claim 37 had the plaintiff not filed its disclaimer, reads (R. 592):

> "3. The Master erred in failing to find that the structure manufactured and installed by Llewellyn Iron Works and used by defendant Pacific Finance Corporation does not infringe Claim 37 of the Reissued Letters Patent in suit."

This assignment necessarily involved—

First. The validity of Claim 37; and
Second. Whether that claim, if valid, was infringed.

Defendants themselves admit and cite cases to support the proposition that (brief, p. 5)—

> "Defendants can urge the cross-assignments of error on plaintiff's appeal—

Walker on Patents (6th Ed.) pp. 772, 774.

Electric Gas Lighting Co. v. *Fuller,* 59 Fed. 1003 (C. C. A. 1st Cir.).

Crown Cork and Seal Co. v. *Aluminum Stopper Co.,* 108 Fed. 845 (C. C. A. 4th Cir.).

United States Consolidated Seeded Raisin Co. v. *Selma,* 195 Fed. 264 (C. C. A. 9th Cir.).

The cross-appeal was taken solely to preclude any argument that the defenses to which the cross-assignments of error relate are before this Court for consideration."

See, also:

Mills Novelty Co. v. *Monarch Co.,* (C. C. A. 6), 49 F. (2d) 28, 29.

Six Wheel Corp. v. *Sterling Co.,* (C. C. A. 9), 50 F. (2d) 568.

Herman Body Co. v. *St. Louis etc. Co.,* (C. C. A. 8), 46 F. (2d) 879.

Certainly if defendants can urge invalidity, inoperativeness, intervening rights and delay in filing disclaimer, etc., on plaintiff's appeal, plaintiff would clearly have been entitled to urge before the lower court any questions raised by defendants' exceptions, and as defendants excepted to the Master's findings as to claim 37, (had the disclaimer not been filed), plaintiff would have been at liberty, under defendants' assignments, to have argued the validity and scope of claim 37. Therefore the Master's report as to claim 37 did not stand confirmed for failure to file exceptions.

The situation is precisely the same as though plaintiff had excepted to the Master's conclusion of law with respect to claim 37, and while such exception was pending undecided, plaintiff concluded to and did file a disclaimer.

Defendants' exception of error No. 3 above referred to is a complete refutation of defendants' contention that the Master's report was final as to claim 37, and an admission that it is not.

Defendants saw fit in filing their exception No. 3 to require the trial court to pass upon the question of the validity of claim 37 and its infringement, and it is now in no position to insist that had the disclaimer not been filed by plaintiff, the Master's report was not reviewable concerning his ruling on claim 37.

The defendants having excepted to the Master's report as to claim 37 and that assignment of error having been under the consideration of the lower court for seven months prior to the filing of the disclaimer, and the disclaimer having been filed five months before the lower court handed down its opinion, plaintiff would have been clearly entitled to await the lower court's ruling on defendants' exception No. 3, and the entry of a decree based thereon made by a *competent court* before taking any action with regard to filing any disclaimer even though one was necessary, which it was not.

Once a *decree* had been *entered by a competent court,* plaintiff could have then taken an appeal to this Court and have had the question raised by defendants' exceptions considered by this Court, had the lower court adopted in its decree the conclusion of law of the Master with respect to claim 37.

Plaintiff filed its proper, though unnecessary, disclaimer nearly five months before the decree of the lower court was entered. Plaintiff would then have had thirty days in which to determine whether it had to take an appeal from any decree of the lower court based on defendants' exception No. 3 before any time would be running against it under the disclaimer statutes, if it had not filed a disclaimer.

Under such circumstances, defendants' contention that the Master's opinion *was final* as to claim 37 and that no exception was taken thereto is without foundation in fact or substance.

DISCLAIMER POINT II.

HAD THERE BEEN NO EXCEPTION FILED WHICH REQUIRED THE LOWER COURT TO PASS UPON THE VALIDITY AND INFRINGEMENT OF CLAIM 37, THIS WOULD NOT HAVE PREVENTED THE LOWER COURT FROM CONSIDERING, EITHER SUA SPONTE OR AT THE INSTANCE OF THE PLAINTIFF, EITHER

(a) THE QUESTION OF LAW AS TO WHETHER CLAIM 37 COMPLIED WITH SECTION 4888 OF THE REVISED STATUTES, OR

(b) THE QUESTION OF LAW WHETHER THAT CLAIM IS INFRINGED.

THE FAILURE TO FILE EXCEPTIONS TO A MASTER'S CONCLUSIONS OF LAW DOES NOT PREVENT EVEN THE COURT OF APPEALS FROM REVIEWING THOSE CONCLUSIONS AFTER A DECREE OF THE LOWER COURT.

THE RIGHT OF A LOWER COURT OR A COURT OF APPEALS TO REVIEW CONCLUSIONS OF LAW IS NOT TO BE CONFUSED WITH DECISIONS AS TO FINDINGS OF FACT MADE EITHER BY THE MASTER OR THE LOWER COURT.

THE QUESTION OF WHETHER THE LANGUAGE OF CLAIM 37 IS SUFFICIENTLY DEFINITIVE UNDER REVISED STATUTES SECTION 4888 IS A QUESTION OF LAW AND NOT OF FACT.

We have already shown that under defendants' exception No. 3, the lower court would have been required to pass upon the questions of validity and infringement of claim 37 of the Parker patent had the disclaimer with respect thereto not been filed, about seven months prior to the entry of the decree (R. 646) on November 30, 1931.

We shall now proceed to show that had no exceptions been taken to the Master's report and no disclaimer filed, the lower court was right in holding that—

> "where no *final decree* is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim."

and that question of validity of claim 37

> "remained at large and the commencement of the rea-

> sonable time within which the plaintiff might disclaim would be the *entry of such decree.''*

and that the question of law as to whether claim 37 of the Parker patent is sufficiently definitive under Revised Statutes Section 4888 could have been determined by the lower court *sua sponte* or at the instance of the plaintiff had no exceptions been taken.

Under the authorities it is well established that questions of law may be considered by the lower court whether exceptions thereto were taken to the Master's report or not. The decisions hold that even the Court of Appeals may likewise review conclusions of law, with or without assignment of error.

We have pointed out in our original brief that the case of *Ensten* v. *Simon Ascher Co.,* 282 U. S. 445, upon which the defendants rely, affords no basis for their motion. We pointed out that in that case an interlocutory decree *by a ''competent court''* was entered May 24, 1922, adjudging claims 1, 3, 4 and 5 of the patent there in suit valid and infringed, and *held claim* 2 *invalid in view of the prior art.* In other words, this *decree* of a *''competent court''* held that claim 2 included more than that of which ''the patentee was the original or first inventor or discoverer.''

The time for appealing from this interlocutory decree of the *''competent court''* was thirty days. The plaintiff might have appealed from that portion of the decree holding claim 2 invalid in view of the prior art, but did not do so, and thereby waived its right to any further review by any court.

Notwithstanding that no appeal was taken from the interlocutory decree of a *''competent court''* of May 24, 1922, and plaintiff had waived its right to appeal as to claim 2, it waited nearly two years (April 30, 1924) to file a disclaimer in the Patent Office.

Under these circumstances, the lower court (Judge Westenhaver) 13 F. (2d) 132 and the Court of Appeals of the Sixth Circuit 38 F. (2d) 71, held that the patentee had unreasonably neglected and delayed disclaiming claim 2 after the District Court in Ohio had decreed it invalid, from which decree no appeal was taken and from which no further appeal could be taken.

The Supreme Court in affirming the decisions below held (282 U. S. 445, 455):

> "When a *competent court* has declared his" (the patentee's) "pretentions without sufficient foundation, we think good faith and the spirit of the enactment demand that he act with such promptness as the circumstances permit either to vindicate his position or to relieve the public from further evil effects of his false assertion. But for the benign provisions of the statute, such an assertion would invalidate the whole patent; and these provisions were intended to protect only those who by prompt action either seek to overturn an adverse ruling or retreat from a false position."

The *"adverse ruling"* referred to in the last sentence by the Supreme Court is obviously a decision or decree of a *"competent court,"* and must be read with the whole quotation and not as defendants attempt to interpret this ruling.

In the Ensten case the *"competent"* lower court held claim 2 invalid in view of the prior art. The plaintiff might have appealed from that decision within thirty days and thus secured an early determination of his rights. Having failed to do this and the time for appeal having elapsed, the decree of the trial court became final and no further appeal could be taken therefrom under the statutes.

The Ensten case is not applicable here, for here there has been no decree of a *"competent court"* holding claim 37 invalid. The disclaimer was filed while this claim was before the lower court both on defendants' exception No. 3

and because the legal conclusion of the Master was "at large."

Furthermore, the disclaimer here was not a *necessary,* though a proper one, as the Master had simply concluded as a matter of law that claim 37 was not sufficiently definitive under Revised Statutes Section 4888, and did not hold that it was anticipated by the art, nor that it covered more than Parker was entitled to, but only that it did not sufficiently define a complete structure and (R. 570-571)—

> "It must also be considered that the other claims amply protect the invention. It is concluded that Claim 37 does not comply with Section 4888 of the Revised Statutes."

The lower court was correct in his interpretation of the Ensten case when he held—

> "that where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim"

and that—

> "the entire report was, at the time of the making of the motion, still before the court *subject to being passed upon, changed or modified. There was no decree* interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, * * * the *matter remained at large* and the commencement of the reasonable time within which the plaintiff might disclaim would be the *entry of such decree."*

UNDER THE AUTHORITIES NO EXCEPTIONS NEED BE TAKEN TO A MASTER'S CONCLUSIONS OF LAW.

In *Burke* v. *Davis,* 81 Fed. 907, the Court of Appeals for the Seventh Circuit considering a case where no exceptions are filed by the complainant and their motion thereafter made for leave to file exceptions being denied, nevertheless considered the case without exceptions and reversed the decree of the District Court. On the question of want

of exceptions to the Master's report, the Court said (p. 910):

> "In the absence of exceptions to the report there can be no inquiry into the correctness of the master's findings of fact; but whether the proper decree was entered upon the report is nevertheless open to consideration. The master's mistaken apprehension of the legal consequences of the facts reported, as Daniell stated it, 'may be opened to further directions, without exceptions'."

In *Celluloid Mfg. Co.* v. *Cellonite Mfg. Co.,* 40 Fed. 476, C. C. N. Y., the case came on for argument on exceptions to the master's report. The defendant took no exceptions as to certain *findings of fact,* and Circuit Judge Wallace held that these findings, therefore, should not be disturbed. However, as to the practice as to conclusions of law where no objections were filed, the Court stated (p. 477):

> "The practice thus referred to does not preclude the defendant from being heard upon a question of the correctness of the legal conclusion reached by the master. Where the master, by his report, states the facts correctly, but errs as to the legal conclusion, the party against whom he errs is not required to except to the report, but may bring the question to the attention of the court upon further directions; or, if the report is made pursuant to an interlocutory decree, when the cause comes on to be disposed of by a final decree. 2 Daniell, Ch. Pr. 149. The cause remains under the control of the court until disposed of by a final decree, and until then it can revise the interlocutory decree, or any proceeding in the cause; and it is its duty to correct any error of the master affecting the merits, as well as any error of its own, properly brought to its knowledge. *Vooster* v. *Handy,* 22 Blatchf. 308, 21 Fed. Rep. 51; *Perkins* v. *Fourniquet,* 6 How. 206; *Forniquet* v. *Perkins,* 16 How. 82."

In *Smith* v. *Seibel,* 258 Fed. 454, D. C. Iowa, as no exceptions to the Master's report were filed within the twenty days permitted, the Court, District Judge Reed, held (p. 456):

> "as no exceptions were filed thereto within 20 days,

> the report *as to the facts,* under equity rule 66, stands confirmed, and the defendant is precluded from urging the questions thus raised as against the finding of the facts by the master. But the legal conclusion of the master upon the facts so found appears upon the face of the report, and *may be noticed by the court.*"

In *National Folding-Box & Paper Co.* v. *Dayton Paper Novelty Co.,* 91 Fed. 822 (C. C. Ohio), the late Mr. Chief Justice Taft, sitting as Circuit Judge, in disposing of an attack made on the priority of the Master withdrawing after formally filing, and then correcting, revising and re-filing his report, said (p. 824):

> "Nor is there anything in the eighty-third equity rule which prevents action of the court upon the report of the master, summary, discretionary, or otherwise. That rule simply prescribes the course of the master in respect of filing the report, and of the parties in presenting exceptions; but it leaves the course to be taken by the court to be determined by practice in the high court of Chancery in England as it was in 1842.
>
> "It is insisted that the master, when he filed his report, became *functus officio,* and could not thereafter amend his proceedings, at a time when he was clothed with no official authority. This is the significance of the references to the 'ex-master' of which counsel's brief is so full. It will hardly be denied that the authority which the master exercised in his first report came wholly from the court. It would seem clear that the court which gave him original authority might renew that authority. Re-references and recommitments are not so unusual as to require citations of precedents to justify them, and yet they can only be made on the theory that the court which originally conferred authority may renew it. The order of this court giving the master leave to withdraw his report for amendment necessarily gave him the authority to make an amended report, and he was as much master of the court when he made the second report as when he made the first.
>
> "Mr. Justice Bradley, in *Thomson* v. *Wooster,* 114 U. S. 104, 112, 5 Sup. Ct. 788, speaking for the Supreme Court, said that the English edition of Daniell's Chan-

cery Practice, published in 1840, contained the best exposition of the practice of the high court of chancery at the time the equity rules were adopted by the supreme court, and that to this book reference should be had when questions of federal equity practice arose which were not covered by the equity rules. In the edition of Daniell referred to, on page 961, is the following:

" 'Although the usual course by which a review of a master's report is to be procured is by taking exceptions to it, there are many cases in which the court will direct the master to review his report without requiring exceptions to be taken, or, if they are taken, will direct it to be reviewed upon grounds independent of those laid by the exceptions; and sometimes, as we have seen, the court will direct a master to review his report in order to afford a party an opportunity for taking in objections to the draft, as a foundation for exceptions. A reference back to the master, to review a report which has not been excepted to, may be made upon the hearing for further directions, and is frequently so made when the court is not satisfied with the master's finding, as where the master has not found sufficient facts for the court to found its judgment upon. So, also, if the master has exceeded his authority, it will either direct him to review his report, or take no notice of his finding.'

"See, also, 2 Beach. Mod. Eq. Prac. Sec. 713.

"In *Mosher* v. *Joyce*, 6 U. S. App. 107, 112, 2 C. C. A. 324, 325, 51 Fed. 441, 444, Mr. Justice Jackson, then circuit Judge, speaking for the court of appeals of this circuit, said:

> " 'In respect to such matters as the recommittal of accounts or a reference back to a master, the chancellor exercises a very large discretion, and is not to be put in error in his action upon such motions except upon a very clear showing of merits, and in the absence of negligence.'

"The right and power of the court to permit the master, upon his own application, to withdraw his report for amendment, would seem to be sustained by the following Massachusetts authorities: *Heywood* v.

Miner, 102 Mass. 466; *Webber* v. *Orne,* 15 Gray, 351; *Gardner* v. *Field,* 5 Gray 600."

In *Central Improvement Co.* v. *Cambria Steel Co.,* 210 Fed. 696, 699 (C. C. A. 8) the general rule is that —

> "Where no exception is taken to the master's report it will be deemed to be true, and where exceptions to parts of it are taken the parts to which no exception is taken will stand as correct and will not be open to review in an appellate court,"

but that—

> "This rule, like most rules of law or practice, is not without its exceptions,"

and refers to *Sheffield* v. *Gordon,* 151 U. S. 285, 291, where the Supreme Court said:

> "It is true if the report of the Master is clearly erroneous in any particular, it is within the discretion of the court to correct the error."

The Court of Appeals in the Cambria case further said (p. 700):

> "In 2 Daniell's Chancery Pleading and Practice, page 1314, it is said that it is entirely discretionary with the court to grant an opportunity to except to a report after it has been absolutely confirmed * * * suits in chancery are tried and reviewed in view of the fact that a court of equity has and frequently exercises the power where justice may thereby be done, to grant to litigants the right remedy although they have sought the wrong one. * * * As an appeal in equity in the Federal Courts results in a trial *de novo,* the appellate Court is not, in our opinion, so powerless that it is compelled to affirm an unjust decree; nor is the appellant so conclusively estopped that it may not attack such a decree by the fact that it gave a wrong reason for its exception to the erroneous conclusion of the master it assails."

The *Central Improvement Co.* v. *Cambria Steel Co.* case just referred to is in conformity with the other decisions which hold that the trial court may review a Master's conclusions as to the law, whether exceptions thereto have

been taken or not, and that even questions of fact on which the Master is clearly wrong may be reviewed by that court without exceptions.

PLAINTIFF DID NOT UNREASONABLY DELAY FILING ITS DISCLAIMER.

Defendants have raised the question of infringement of claim 37 by its assignment of error No. 3 (R. 592). Had the disclaimer not been filed the lower court would have been under obligation to pass upon the question of validity of this claim in connection with determining the question of infringement, and under the well known rule of law referred to by defendants in their brief and the authorities there cited (p. 5), there was no necessity of plaintiff taking a cross-exception.

If there were merit (which there is not) in defendants' contention that plaintiff's failure to file any exception to the Master's finding and conclusion with respect to claim 37 rendered such finding and conclusion final, nevertheless plaintiff did not unreasonably delay in filing its disclaimer. This is fully shown by the decision of the Circuit Court of Appeals for the Second Circuit, in *Bassick Mfg. Co.* v. *Adams Grease Gun Corp.* (C. C. A. 2), 52 F. (2d) 36. The court in an opinion by Judge Swan upheld a disclaimer under facts more favorable to the defendant than those of the instant case, saying (p. 39):

> "It is contended that plaintiff cannot maintain its suit upon any of the claims of the Gullborg patent in suit because of delay in filing a disclaimer as to claim 12. This claim was held invalid in the litigation reported as *Lyman Mfg. Co.* v. *Bassick Mfg. Co.*, 18 F. (2d) 29 (C. C. A. 6). That litigation included six suits, all of which were disposed of in a single opinion on March 23, 1927. Petitions for rehearing were filed in two of the suits, neither of which, however, involved claim 12. These petitions for rehearing having been denied May 13th, the plaintiff contends that the time

for presenting a petition for certiorari did not expire until August 13th, and that its disclaimer filed on August 29th was well within the period which this court sanctioned as a reasonable time within which to disclaim, in *R. Hoe & Co.* v. *Goss Printing Press Co.* (C. C. A.), 31 F. (2d) 565, and *Ensten* v. *Simon, Ascher & Co.* (C. C. A.), 38 F. (2d) 71, affirmed 282 U. S. 445, 51 S. Ct. 207, 75 L. Ed. 453. The defendant, on the other hand, contends that in each of the suits involving claim 12 the mandate was filed April 23rd, so that the time to apply for a writ of certiorari expired July 23rd and the time to disclaim thirty days thereafter. The question is of seasonable action. Ordinarily, thirty days after the time expires to petition for certiorari would seem to give the patentee reasonable opportunity to determine his course of action, as we said in the Hoe and Ensten cases. In the case at bar, however, the decision that claim 12 was invalid was announced in an opinion which was subject to review as to other claims until August 13th. We do not think the companion suits can be ignored merely because they did not involve claim 12. Had the writ of certiorari been allowed, the Supreme Court's decision as to the other claims might have resulted in such a construction of them as would have cast doubt upon the correctness of the lower court's disposition of claim 12. It was not an unreasonable delay for the patent owner to await this possibility before determining to file the disclaimer."

The decision is in keeping with the beneficial purpose of the disclaimer statutes as expressed in *Carson* v. *American Smelting Co.* (C. C. A. 9), 4 F. (2d) 463, 469.

THE MORSE CASE HAS NO BEARING ON THE SITUATION HERE AS TO THE NECESSITY OF FILING A DISCLAIMER.

The assumption that a claim, indefinite in the sense of failing to identify the elements of the structure, as in this case, invalidates the patent is unfounded. Such a claim is obviously a misadventure in an effort adequately to claim the invention, in that it fails to comprehend a definite part of the subject matter of the invention. Indeed, it is not a

claim. It is a mere nullity. Its presence in the patent is harmless. It involves no pretenses or deception, no fraud, no claim to have invented more than was actually invented, for as it fails to describe a definite part of the subject matter of the invention, so it fails to claim anything definite in the prior art. It lacks the vice of claim of the character which the courts, prior to the disclaimer statute, held, should invalidate the patent.

In the Morse case, for example, the claim broadly covered a process which the patentee had not invented. The court said of it (15 How. 62, 113):

> "he does not confine his claim to the machinery or parts of machinery, which he specifies; but claims for himself a monopoly in its use, however developed, for the purpose of printing at a distance."
>
> "In fine he claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law."

That situation has no application here.

THE FILING OF A DISCLAIMER IS NOT A CONFESSION THAT A PATENT WOULD BE VOID IF THE DISCLAIMER WERE NOT MADE.

See: *Manhattan General Const. Co.* v. *Helois-Upton Co.,* 135 Fed. 785, 802 (C. C. Pa.); Walker on Patents, Sixth Ed. p. 342, Sec. 258; *Bay State Optical Co.* v. *Klein,* 20 F. (2d) 915, 917; *Permutit Co.* v. *Wadham,* 13 F. (2d) 454, 457.

In the latter case the Court of Appeals, speaking through Circuit Judge Denison, stated at p. 457:

> "We do not understand that a disclaimer to avoid the supposed anticipating or limiting effect of some other publication is a confession that the patent would be void if the disclaimer were not made. The patentee decides a question of policy; he may think that, al-

> though the supposed anticipation can be successfully met and defeated, a disclaimer will not affect the real value of his patent, and to make it will save trouble and expense and do no harm. We see no reason why he is not at liberty, after the disclaimer as before, to deny the anticipatory effect of the other matter; and it has been so held. *Manhattan Co.* v. *Helios Co.,* 135 F. 785, 802."

CONCLUSION.

We respectfully submit that defendants' contentions that the Parker patent is void for lack of invention, lack of operativeness, lack of utility, alleged intervening rights, alleged delay in filing the disclaimer, and non-infringement, are without substance.

The Master after hearing the evidence of all the witnesses disposes of each of these contentions, except the alleged delay in filing disclaimer which was not before him, adversely to the defendants. The lower court likewise disposed of each of these contentions except non-infringement adversely to the defendants when it specifically decreed the Parker patent was valid.

Parker having for the first time disclosed to the world a control for attendant operated electric elevators in which the attendant operator is stationed in the car, and in which the starting of the car is entirely under the control of the attendant whereas the stopping of the car at landings, in proper sequence, is automatically attained either by pushing buttons in the car or at the landings, is entitled to a liberal construction of his claims, which cover the means for accomplishing this result, utilized in both plaintiff's "Signal Control" elevators and by the defendants in their Pacific Finance installation.

Had the lower court not unwarrantably assumed that there were no means for decelerating high speed elevators in the prior art, and failed to appreciate the vital distinc-

tions between the push button elevators of the Ihlder type and the Parker invention, so fully appreciated by the Master and shown by the record, he would, it seems to us, clearly have held each of the claims here asserted not only valid but infringed, for he says (R. 637):

> "If no such means of electrical control had theretofore existed and Parker had, for the first time, devised a system which supplied a new and highly desirable form long looked for by the manufacturers of elevators, the claim of a primary and pioneer invention *might well be predicated.*"

Had the lower court had the advantage of having the witnesses before him, as did the Master, he would have appreciated, as did the Master, that (R. 574):

> "The invention of Parker is an important one. Coming from one not trained in the art, it has taught the art a new means of control that solves many old problems. That it was contributed by an outsider negatives any theory that it was an obvious step. Otherwise, elevator engineers would have accomplished it long before Parker. * * * the substance of the invention was disclosed in his crude specifications. The art could and did understand and apply them to practice. This is sufficient, and the invention, judged by the results, is a radical step forward. Parker is entitled to high standing for the inventive thought expressed in his patent."

We respectfully submit that this Court should hold the Parker patent valid and of such scope as to include within it defendants' installation, which secures the identical results of the Parker invention by substantially the same or clearly equivalent means.

Respectfully submitted,

Wallace R. Lane,
William H. Hunt,
Edwin W. Sims,
Clarence J. Loftus,
Raymond Ives Blakeslee,
Counsel for Plaintiff.

No. 6996.

IN THE

United States
Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Otis Elevator Company,
Plaintiff-Appellant and Cross-Appellee,

vs.

Pacific Finance Corporation and Llewellyn Iron Works,
Defendants-Appellees and Cross-Appellants.

REPLY MEMORANDUM FOR DEFENDANTS.

FREDERICK S. LYON,
LEONARD S. LYON,
RICHARD F. LYON,
National City Bank Bldg., 810 S. Spring, L. A.,
Attorneys for Defendants.

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REPLY MEMORANDUM FOR DEFENDANTS.

Most of the matters contained in Plaintiff's Reply Brief are merely a restatement of what was previously said in plaintiff's main brief, and have already been covered in our principal brief. We are concerned primarily that the Court should not be misled by plaintiff's reference to the decelerating means shown in the prior art. Judge James held that none of the braking mechanism disclosed in the prior art was adaptable to fast-moving elevator cars [R. 640]. This finding is challenged in Plaintiff's Reply Brief, although plaintiff stipulated at the trial that the slow-down and self-leveling mechanism employed in

the present high-speed elevators required an invention not disclosed in the patent in suit [R. 257].

None of the decelerating mechanisms of the prior art referred to in Plaintiff's Reply Brief are adaptable for automatically slowing down a high-speed elevator car. Plaintiff refers to manually controlled mechanism adapted for high-speed cars. It refers to automatic mechanism adapted for slow-speed cars. It does not refer to automatic mechanism adapted for high-speed cars. If this distinction is borne in mind, it will be apparent that the finding made by Judge James is entirely correct. The absence of such mechanism in the prior art completely refutes plaintiff's principal argument that the so-called Parker control could be used to harness any form of high-speed elevator. The automatic stopping mechanism disclosed in the patent in suit is solely the form of mechanism long known in the prior art for automatically stopping slow-speed elevators.

Before the Parker invention there were high-speed manually-controlled electric elevators, and since elevators were slowed down and stopped, they possessed decelerating means. But these decelerating means were not automatic in their operation. The elevator operator had to control and manipulate the same by his car-switch lever. They could not be controlled by the elevator operator merely throwing his car-switch to the neutral position. The car-switch lever had to be moved back and forth to regulate and control the deceleration of the car manually in its approach to the landing. The elevator operator, in bringing a high-speed elevator car manually to a stop at a landing with his car-switch lever, manipulated the deceler-

ating means of the elevator, to compensate for different weights and speeds. These decelerating mechanisms could not be operated by the control described in the Parker patent. The Parker patent operates merely to throw the car-switch to the neutral position at a predetermined point from the landing. No means are described in the Parker patent for manipulating the car-switch lever back and forth, as different speeds and loads of the car require in decelerating the car to stop at a landing. In our Opening Brief, pp. 41-3, we thoroughly covered the stipulations made by plaintiff that there was no such mechanism in the prior art, and that the devising and discovery of the same constituted an invention made subsequent to the Parker patent.

None of the matters in the record referred to in Plaintiff's Reply Brief (p. 9) refer to any automatic decelerating means for slowing down and stopping a high-speed car. They are as follows:

Pages 394, 505, 509, 510, 422, 203, Vol. 3, p. 295; R. 406, all refer to the Ward-Leonard control. The Ward-Leonard control for elevators was known before the Parker patent, being used, however, on mine-hoists or elevators, and driving the elevator car at widely different speeds depending on the load in the car. Such elevator of course possessed decelerating means, but there was no automatic machine for operating the decelerating devices; they had to be operated by the elevator attendant manually moving his car-lever back and forth in accordance with the speed and load of the car. The testimony of Mr. DeCamp is undisputed that previous to the development by the Llewellyn Iron Works of the alleged infringing

elevators complained of herein, the Ward-Leonard control drove the elevator car at widely different speeds [see R. 127-134]; and there is nothing in the record to show that a high-speed Ward-Leonard elevator had ever been automatically slowed down and brought to a stop level with the landing.

The record, p. 378, contains a reference only to a selector machine; it has nothing to do with an automatic slow-down machine.

Record, p. 116, is the testimony of plaintiff's executive, Reed, who is not an engineer, and he only testifies that a leveling device was in use before the Parker patent; but this leveling device operated after the elevator operator had manually manipulated the decelerating means in accordance with the car speed and load to check the car speed a short distance above or below the landing.

Record, pp. 108-9, is the testimony of the patentee, Parker, who admittedly knew nothing concerning elevators; and Record, p. 562, is the Master's decision, following the testimony of Parker, but without any other support in the record and directly opposed to plaintiff's own stipulations.

On p. 28 of its Reply Brief plaintiff lists defendant's expert Doble's testimony with respect to certain prior art patents. None of these prior art patents discloses an automatic decelerating device adapted for use on high-speed electric elevators, and there is no testimony in the record, by Doble or anyone else, to any other effect. Doble, in testifying concerning certain slow-speed automatic-stopping elevators, mainly of the hydraulic type, testified that they possessed decelerating mechanisms.

The art well knew how to decelerate a slow-speed car to stop the same at a landing. This is sufficiently done by the mere application of the brake, as in the ordinary apartment-house elevators, or the elevator of the Ihlder patent. In the patents to Crouan, McFeely, and Ongley, Doble identifies decelerating mechanisms used on the slow-speed hydraulic elevators. These decelerating mechanisms will all be found to be devices for controlling a valve on the hydraulic motor. None of the same could be employed for automatically slowing down a high-speed elevator, and of course could not be employed on electric elevators.

The Kammerer patent discloses a mechanical device for manipulating a slow-speed hydraulic elevator. The Buffington patent discloses a modification of a friction brake.

On page 30 of Plaintiff's Reply Brief, it is stated:—

> "The uncontradicted evidence thus shows that the identical drive and means for accelerating and decelerating used by the plaintiff in its signal control elevators, was known to elevator engineers and was in use 'back beyond' 1921 [R. 208, 108, 109, 116]."

This statement should be contrasted with the stipulations of plaintiff, Record, p. 257. The record citations are in entire harmony with plaintiff's stipulations, and contrary to the assertions contained in Plaintiff's Reply Brief. R. 208, 378, deal merely with the Ward-Leonard control, and not with automatic deceleration. R. 116 deals merely with leveling devices, and not automatic deceleration. R. 108-9 is again Parker's testimony, wherein he admits that he knows nothing about the elevator art.

If all of the citations in the Record referred to in Plaintiff's Reply Brief, under "POINT II.", are examined, nothing will be found which is in conflict with plaintiff's stipulations, or Judge James' findings.–

> "It was admitted at the hearing before the master by plaintiff's counsel that further invention was required beyond that of Parker to make his system adaptable at all for fast moving elevators." [R. 640.]

–

In attempting to meet our contention that the Intervening Rights of the defendant Llewellyn Iron Works are a bar to plaintiff prevailing in this case, plaintiff contends in its Reply Brief that the record does not support our statement that the No. 4 car of the Petroleum Securities Building was equipped with a car-switch whereby the car could be started only by the attendant in the car, but could be automatically stopped by push-buttons either in the car or at the landings. The Court will determine this issue from the testimony and the exhibits in the record. The drawings for this installation are in evidence. The testimony shows that the equipment on the No. 4 car was identical with that subsequently installed in the Pacific Finance Building, except that a different make of floor selector was used for the hall-buttons. The records are in evidence, showing that this car, so equipped, was placed in operation on August 4, 1925. It is not true that this installation was an abandoned experiment. It was still in use at the date of the trial. (Reference to

the record in support of these matters is contained in our main brief.) This car was inspected by the master at the trial of this case. At the conclusion of this inspection, the master made of record the following observations:—

> "In all installations—and I don't think there is any disagreement about this—that in all of these installations the operator would push the buttons and initiate the starting of the car, and throw his switch into neutral, and then the car would stop when we got to that floor; and we also found out that the buttons on the outside would stop the car." [R. 512.]

In his report the master found:—

> "The evidence shows that the original Parker patent, No. 1,506,380, was issued August 26, 1924, and that the defendants completed an experimental elevator, using a system of control similar to that found in the Pacific Finance installation on or about August 4, 1925." [R. 588.]

—

With respect to the Disclaimer, the contentions in Plaintiff's Reply Brief, respecting what rights it may have had up to the hearing of this cause in the district court, are beside the point. The record conclusively establishes that at least as of the date of the hearing of this cause in the district court, plaintiff abandoned claim 37. [R. 549-50.] This hearing was on October 14 and 15, 1930. The disclaimer was not filed in the patent office until May 1, 1931. It is unnecessary to determine the effect of the delay between the date of the filing of the Master's Re-

port and the date of the hearing on Defendant's Exceptions before the district court. Plaintiff has no excuse for the delay following the hearing before the district court, as of which date the record demonstrates that plaintiff had abandoned claim 37. The subsequent delay is fatal, under the *Ensten case*.

The other matters contained in Plaintiff's Reply Brief are fully answered in our main brief.

Respectfully submitted,

FREDERICK S. LYON,
LEONARD S. LYON,
RICHARD F. LYON,
Attorneys for Defendants.

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT,

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

AFFIDAVIT OF WALLACE R. LANE AND EXHIBITS A, B AND C REFERRED TO THEREIN FILED IN SUPPORT OF PETITION FOR REHEARING.

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Petitioner, Otis Elevator Company.

Filed

THE GUNTHORP-WARREN PRINTING COMPANY, 210 WEST JACKSON, CHICAGO

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IN THE

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AFFIDAVIT OF WALLACE R. LANE AND EXHIBITS A, B AND C REFERRED TO THEREIN FILED IN SUPPORT OF PETITION FOR REHEARING.

STATE OF ILLINOIS, }
COUNTY OF COOK. } ss.

Wallace R. Lane being first duly sworn states that:

He has represented the Otis Elevator Company as its counsel in this litigation continuously since the bill of complaint was filed on June 6, 1927.

January 21, 1929, on defendants' motion over plaintiff's protest, the trial Court referred the case to a Master to make and report findings of fact and conclusions of law.

February 27, 1929, plaintiff believing that this reference was not in compliance with Federal Equity Rule 59, (*Los Angeles Brush, etc.* v. *James,* 272 U. S. 701), and that the expense and delay incident to such a reference would be seriously prejudicial to the plaintiff, filed a petition to have the order of reference set aside.

March 2, 1929, the trial Court denied this petition and stood by its original order of reference.

That much uncertainty and unnecessary delay and expense in this litigation has been due to the fact that this case was referred to a Master, upon defendant's insistance.

April 3 to 16, 1929, continuous hearing before the Master.

December 18, 1929, the Master submitted to counsel for the respective parties a "preliminary draft" of his report to permit him to consider such exceptions and suggestions for amendment as might be offered. (See Master's report R. 590.) In this draft report the Master indicated that he proposed recommending that Parker be held to have made a highly meritorious invention, and that the claims asserted, 3, 22, 29, 40 and 65 were valid and infringed, that claim 41 was valid but not infringed, and that claim 37 was invalid because it was not sufficiently definite to comply with Section 4888 of the Revised Statutes.

January 13, 1930, plaintiff made certain suggestions to the Master's draft report and insisted, as it now does, that claim 37 was a proper sub-combination claim. Plaintiff then pointed out that this sub-combination consists of a control system for an electric elevator comprising—

> (1) a *plurality* of *up* switches *within* the car, *one for each* of a *plurality* of landings,
>
> (2) a *plurality* of *up* switches *without* the car, *one at each* of said landings,
>
> (3) a *plurality* of *down* switches *within* the car, *one for each* of said landings,

(4) a *plurality* of *down* switches *without* the car, *one at each* of said landings,

(5) *switching mechanism within* the car.

Plaintiff also showed that the language used to make plain the operation of the first four elements;

that both the up and down switches within the car and at each landing were operable to "cause the stopping of the car at the respective landings upon its approaching said landings" in both the up and down direction, and

that used to make plain the operation of the fifth element that "said switching mechanism being operable to cause the starting of the car from each and every landing in either direction"—

"plainly imports into it *the circuits and circuit closing means* through which—

'the starting of the car from each and every landing in either direction',

"is caused, and—

'the stopping of the car at the respective landings upon its approaching said landings'

"in the up and down direction, is caused."

Plaintiff also there insisted:

"It is not necessary that the mechanism covered by a sub-combination claim is operable *per se* for such claim always draws to itself the structure and means, or its equivalent, shown in the drawings and pointed out in the specifications."

A complete copy of plaintiff's contentions with respect to claim 37 and the authorities filed before the Master January 13, 1930, in support thereof, is attached hereto and made a part hereof as "Exhibit A."

The Master, in his final report with respect to these suggestions made by plaintiff, says (R. 590)—

"*The plaintiff excepted* to the findings on claims 37 and 41. No reason has been found to change these findings, although the report has been amended in an effort to clarify the master's findings on claim 41.

"The defendants' exceptions, other than those that are formal in character, are directed to the omission

> of specific findings on certain prior art structures. These omissions are intentional. Those references upon which no findings are made are not considered to be pertinent. If this view is erroneous, it would not assist in correcting the error to include in the report findings made upon what the master considers irrelevant matter. *Should there be error, the findings can be made after the error is pointed out and corrected.*''

February 25, 1930, the Master filed his final report containing a number of the typographical changes suggested, but adhered to the findings of his draft report save as above indicated. His language in the draft report is the same as that in his final report concerning claim 37, concerning which he says (R. 590):

> ''The plaintiff excepted to the findings on claim 37.''

When the Master's report was filed the question was presented to plaintiff's counsel, for the first time, as to whether, in view of the statement of the Master concerning claim 37 (R. 570-1):—

> ''It must also be considered that the other claims amply protect the invention. It is concluded that Claim 37 does not comply with Section 4888 of the Revised Statutes and is, therefore, invalid,''

it was necessary to take any further steps with respect to this claim or with respect to claim 41, which the Master concluded was not infringed, in order to adequately protect plaintiff's invention and its rights with respect to these claims.

After a full conference among the attorneys representing the plaintiff, and a careful analysis of claim 37 and all of the language of the Master with respect thereto, the conclusion was unanimously reached that while claim 37 was a proper sub-combination claim, and that as the Master had concluded that it was invalid only because it did not comply with Section 4888 of the Revised Statutes, due to his conclusion that the circuits and circuit closing means should have been included in the claim, as a (R. 570)—

"claim must include such definition of structure that the elements of the structure claimed can be identified,"

and as the other claims did amply protect the invention, time and expense to the court and litigants would be saved by neither filing any further exceptions to the Master's report, nor making any argument before the trial Court with respect to claims 37 and 41.

It was also decided that should the Court, after reviewing the Master's report, conclude that claim 37 was invalid for the reason stated by the Master, or for the reason presented by the defendants before the Master that it was for an aggregation and therefore invalid, plaintiff could, under the decisions that such a question of law could be considered by the trial Court without exceptions to the Master's report, attempt to prevent the entry of a decree consonant with such holding, and if a decree were then entered over plaintiff's protest holding this claim invalid, an appeal could be taken from such decree by plaintiff.

The conclusion was also reached among plaintiff's counsel, in view of the authorities and decisions then carefully considered, that the Master's report was at large, and that the question of law as to whether claim 37 was sufficiently definite to comply with Section 4888 of the Revised Statutes could be considered by the Court at any time prior to the entry of its decree without the filing of further exceptions.

October 15, 1930, the hearing on the defendants' exceptions to the Master's report was argued before Judge James.

In these exceptions defendants themselves raised the question of validity of claim 37 on other grounds than those suggested by the Master, and insisted that the Master erred in failing to find that claim 37 was invalid because—

(a) anticipated by the patent to Strohm (Exception 61);

(b) for an aggregation (Exception 76);
(c) for a different invention than claimed in the original Letters Patent (Exception 111);
(d) of intervening rights by defendants (Exception 115);
(e) of unreasonable delay in filing application for reissue (Exception 122); and that
(f) this and other claims of the patent in suit cover merely the function or abstract effect of a machine (Exceptions 30, 31, 32, 33).

Defendants thereby clearly show that they had no thought that the Master had held claim 37 invalid *because it covered only a function.* On the contrary they insisted by their exceptions that the Master was wrong because he did not so hold. They insisted that the trial Court *should reverse* the Master *because he did not hold* the claim *was for a function or abstract effect* of a machine. They also insisted that the trial Court should also hold that this claim was invalid because it was anticipated, was for an aggregation, was for a different invention than the original patent, because of unreasonable delay in filing application for reissue, and of intervening rights.

The question of invalidity of claim 37 was thus before the trial Court on nearly every ground available to a defendant except that it did not comply with Section 4888 of the Revised Statutes under defendants' own exceptions.

From the papers on file in this case, and so far as I am advised, there was no thought, expressed or implied, that anyone considered the Master's opinion with respect to claim 37 as holding that it covered a function only until the filing of the opinion of this Court.

As the defendants' exceptions to the Master's report are not before the Court, I attach hereto a correct copy of those referred herein, as "Exhibit C."

It was not until October 2, 1931, nearly a year after the argument, that the trial Court handed down its opinion

holding claims 3, 22, 29, 40, 41 and 65 of the Parker patent valid but not infringed. November 30, 1931, the decree of the trial court was entered.

While the Master's report was at large and under consideration by the trial Court, the Supreme Court handed down its decision in the Ensten case, which it took on Petition for certiorari on account of divergency of opinion between Courts of Appeals of different circuits with respect to disclaimers. Upon learning of this decision, a conference between plaintiff's counsel was had, with the view of determining whether the situation as above presented required either—

(a) Calling attention of the trial Court to claim 37, and asking it to pass upon the validity of claim 37; or
(b) Whether a disclaimer should or could be filed.

After careful consideration of the decisions with respect to the Master's report being at large until passed upon by the trial Court, and those holding that a court could either of his own volition or upon his attention being called particularly with reference to matters of law, change or modify the report in any way he saw fit, counsel reached the unanimous conclusion that the question of the validity of claim 37 could then be called to the attention of the Court, and the Court could thereafter pass upon it. However, as the Master had held and as the fact is, that the other claims adequately protect the Parker invention, the further conclusion was reached that there was no necessity of spending further time of the Court and litigants with respect to claim 37. For these reasons it was decided not call the Court's attention to this claim, but instead to consider whether any disclaimer was proper, advisable or necessary.

In this connection, counsel for plaintiff thoroughly canvassed the Ensten case and all other available decisions and textbook reports, and other authorities, with respect

to disclaimers, with the view of determining whether it was advisable, proper or necessary to file a disclaimer of claim 37. As a result of extended investigations and the value of claim 37, in view of the other claims of the Parker patent, it was decided:

First. That claim 37 was a proper and valid subcombination claim and under the opinion of the Master, covered no more than that of which Parker was the first and original inventor and discoverer, but as the other claims adequately covered the invention; the expense of contesting the finding of the Master that this claim was indefinite, was unjustified;

Second. That as the Master's report simply indicated that the claim was indefinite as not complying with Section 4888 of the Revised Statutes, and as he had not held that this claim covered more than that of which Parker was the first and original inventor or discoverer, that no disclaimer whatever was necessary and there was very grave question as to whether it was even proper under the disclaimer statutes;

Third. That while it was clear that no disclaimer was necessary, it was decided to file one, as the other claims adequately protected the invention, and thus eliminate the necessity of any further consideration of this claim by any court.

It was thus concluded that if a disclaimer should be filed both defendants and plaintiff would be relieved from further controversy in the trial Court or anywhere else over the question of validity or infringement of this claim. It was also concluded that in filing a disclaimer, plaintiff would in no wise prejudice its rights under the patent.

May 1, 1931, six and one-half months after the case had been argued before Judge James, and five months before he had rendered his opinion, and seven months before the filing of the decree below, plaintiff filed a disclaimer of claim 37. In this disclaimer plaintiff stated (R. 631):

> *"The sole reason for this disclaimer is that a Special Master,* in the case of *Otis Elevator Company* v. *Pacific Finance Corporation and Llewellyn Iron*

Works, now pending in and undecided by the District Court of the United States, for the Southern District of California, Central Division, *has advised,* for reasons likewise applicable to claims 34, 35 and 36, *in a report filed by him, that said claim 37 is invalid as not complying with Section 4888 of the Revised Statutes,* and as he *'considered that the other claims amply protect the invention.'* ''

All of the above steps were taken by plaintiff only after thorough and mature consideration of the claim, the Master's report, and the circumstances existing in this case. While there were a number of conferences about the questions involved, no one expressed or intimated the thought that either the claim or the Master's report indicated that claim 37 was "invalid because it claims only the function or result of an invention." This statement is supported by the disclaimer itself and by the affidavit of Mr. Walter E. F. Bradley, the Patent Engineer of the Otis Elevator Company, who was among those who conferred with respect to the filing of the disclaimer, filed in this case on July 20, 1931, sworn to on July 14, 1931, in which he stated with respect to the disclaimer of claim 37:—

> "This disclaimer was filed by the plaintiff not because the patentee claimed more than that of which he was the first or original inventor, and not because plaintiff did not believe claim 37 set forth a proper sub-combination. Plaintiff elected as a matter of policy not to retain claim 37 as the invention therein referred to was amply covered by other claims as found by the master in this case, and because the master was of the opinion it was indefinite and did not comply with Section 4888 R. S."

In all of the conversations concerning the steps to be taken, the questions related to whether the claim was a proper sub-combination claim, and whether it was invalid because not sufficiently definite to comply with Section 4888 of the Revised Statutes, and the conclusions above stated were reached with respect to these premises.

June 17, 1931, defendants filed a motion to dismiss the bill of complaint on the sole ground that the entire patent

was invalid because claim 37 was invalid under Section 4888 of the Revised Statutes and of unreasonable delay in filing a disclaimer, and on June 22, 1931, filed a brief in support thereof (R. 622).

July 20, 1931, plaintiff filed a brief in resistance to defendants' motion to dismiss filed June 17, 1931.

As this court stated in its opinion:

> "Plaintiff asserted in answer thereto [defendants' motion] that the disclaimer was timely and sufficient thereunder. *It now urges in addition* that no disclaimer was necessary" etc.,

I hereby attach a copy of the brief then filed as "Exhibit B," so that the Court may correct its misapprehension that we have not at all times urged that no disclaimer was necessary though proper. This brief was filed by plaintiff before the trial Court in resistance to defendants' motion to dismiss. It shows:—

(1) That plaintiff urged that no disclaimer was necessary though proper;

(2) That claim 37 was a proper one and sufficiently definite as a sub-combination claim to comply with Section 4888 of the Revised Statutes under the authorities applicable;

(3) That notwithstanding this, before any finding of the trial Court was made or any final decree entered, plaintiff filed a proper but not necessary disclaimer as to claim 37;

(4) That "The sole reason for filing this disclaimer" was that the Master's report had concluded that "claim 37 is invalid as not complying with Section 4888 of the Revised Statutes," and as he considered that "the other claims amply protect the invention;" and

(5) That the master recommended that the claim be held invalid:—

(a) Not because Parker claimed "more than that of which he was the original or first inventor or discoverer";

(b) Not because he claimed "materially more that that of which he was the first to invent";

(c) Not because he claimed to be the first, original inventor or discoverer of a substantial

> part of a thing of which he was not the original or first discoverer, for the Master definitely found, as shown on the face of his report, "that the other claims amply protect the invention",

but because he ruled, as a question of law, that claim 37 did not comply with Section 4888 of the Revised Statutes as to form, for it did not include "such definition of structure that the elements of structure claimed can be identified."

The trial Court was thus given an opportunity to pass upon the validity of claim 37 in determining whether a disclaimer was necessary or not. Instead of this, the trial Court held in its opinion, filed October 2, 1931, that as the matter was at large and the Court could consider the question of the validity of this claim had plaintiff not disclaimed, plaintiff had not forfeited any rights by failure to except to the Master's report.

So far as I am advised, since the Master submitted his draft report to counsel for the parties for their suggestions and exceptions no one, prior to the opinion of this Court, has suggested or argued that the Master concluded or intended to intimate that claim 37 of the Parker patent was invalid as functional only, but simply that he regarded it as not sufficiently definite to comply with Section 4888 of the Revised Statutes. Plaintiff's counsel has always insisted and firmly believes that claim 37 was a proper subcombination claim and that the finding of the master with respect thereto did not require the filing of a disclaimer, but that it had the right to disclaim to save further controversy over that claim as the other claims amply protect the Parker invention and would not be prejudiced thereby.

WALLACE R. LANE.

Subscribed and sworn before me a Notary Public, this 18th day of February, A. D. 1934.

IRENE V. CURRAN,
Notary Public.

(NOTARIAL SEAL)

"EXHIBIT A."

PLAINTIFF'S EXCEPTIONS AND SUGGESTIONS MADE TO THE MASTER'S DRAFT REPORT, FILED JANUARY 13, 1930, CONCERNING THE VALIDITY OF CLAIM 37 OF THE PARKER PATENT AS A SUB-COMBINATION CLAIM AND THE AUTHORITIES FILED IN SUPPORT THEREOF.

THERE IS NO SUGGESTION IN IT THAT PLAINTIFF WAS AWARE THAT THE MASTER REGARDED THIS CLAIM INVALID AS FUNCTIONAL ONLY.

Claim 37. We respectfully suggest that the Master reconsider the statement on pages 22 and 23 concerning claim 37, for we feel that the language of this sub-combination claim plainly imports into it the circuits and circuit closing means through which—

> "the starting of the car from each and every landing in either direction",

is caused, and—

> "the stopping of the car at the respective landings upon its approaching said landings"

in the up and down direction, is caused. It is not necessary that the mechanism covered by a sub-combination claim is operable *per se* for such claim always draws to itself the structure and means, or its equivalent, shown in the drawings and pointed out in the specifications.

We blame ourselves for not pointing out with more particularity the sufficiency of this claim either in our original or reply brief. The Patent Office having considered the claim sufficiently descriptive to comply with the statutes, and the defendants making no contention to the effect that it did not, caused us to overlook this.

It is true that so far as defendants' infringement is concerned, other claims which have been sustained and held infringed by the Master amply protect the invention, but as the claim is clearly for a novel subject matter and is not

met by the art, we dislike to acquiesce in holding this claim invalid under Section 4888, as it may seriously prejudice plaintiff's rights in other litigations.

Analysis of the claim shows that it is for a *control system* for an elevator car. The words "control system" alone compels reference to be made to the specifications and drawings to ascertain the character of the system and the means to be employed in connection with the sub-combination of elements. When reference is thus made, it is immediately apparent that the switches are a part of an operable combination which necessarily include the primary and secondary circuits through which the car is started, run and stopped. Furthermore, the expressions—

> "operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction,"

used in connection with the up switches within and without the car;

> "operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction,"

used in connection with the down switches within and without the car; and

> "being operable to cause the starting of the car from each and every landing in either direction,"

used in connection with the switching mechanism located within the car, each clearly indicates, to anyone experienced in the elevator art, the operative circuits and means whereby the car is run and stopped, the starting and running being initiated by switches within the car, and the stopping in either direction being initiated by switches within the car and at the landings.

The claim is for a *control system* for an elevator car, and has positively included as elements:—

> (1) up switches within the car and without the car for causing the car to stop at the respective landings in the up direction;

(2) down switches within the car and without the car for causing the car to stop at the respective landings in the down direction;

(3) switching mechanism within the car to cause the starting of the car from each and every landing in either direction.

The sub-combination of elements in the control system for elevator cars covered by claim 37 are clearly operable in connection with the circuits and circuit closing means shown and described in the drawings and specifications, and can be readily identified by reference thereto. This, under the authorities, is sufficient to satisfy the requirements of Section 4888 of the Revised Statutes as we understand it, and the decisions of the court which have interpreted it. This would be true even though no reference in the claim were made to the elements being used in a "control system", and even though the words "operable to cause the stopping of the car" and "operable to cause the starting of the car" were not used as they are in the present claim, for the elements in a sub-combination claim in a patent do not have to be operable *per se,* so long as they are operable in connection with the disclosures of the patent.

The provisions of Section 4888 relate simply to the requisites of an application which an inventor must file in order to receive a patent for his invention. When he has shown in his drawings, description and claims the manner of making, constructing and using it in such—

> "terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same,"

and has distinguished it from other inventions, he has satisfied the requirements of this statute. It is apparent from the record and from the decision of the Master that the disclosures of the Parker patent are ample to fully satisfy these requirements. Having done so, and the public having available to it the complete drawings and spec-

ifications, and the means and apparatus shown therein, an inventor may properly cover sub-combinations in different claims, less than the whole invention, and even though this sub-combination is operable in connection with other operable parts of the system, the claim is nevertheless valid, and the infringer is not entitled to use the sub-combination thus claimed.

In connection with the foregoing, we respectfully call the Master's attention to the following authorities fully supporting our position, and to which we made no reference in either of our briefs filed following the hearing, as the question of sufficiency of this claim had not at that time been raised by anyone. As claim 37 is in the form of a number of sub-combination claims which have been sustained by the courts, and as the Patent Office had considered it sufficiently definitive of the invention, we hope that our failure to point out the foregoing considerations, as well as the following decisions, will not prevent the Master giving the matter careful reconsideration.

The adoption by the Master of the suggestions we have made concerning claim 37 will necessitate only a revision of the full paragraph starting at the bottom of page 22 and ending the middle of page 23.

A SUBCOMBINATION CLAIM NEED NOT SPECIFY A COMPLETE OPERATIVE MACHINE.

Claim 37 amply complies with Section 4888 and is clearly *valid as a sub-combination* under the authorities.

Judge Hazel in *Wright* v. *Curtiss,* 204 Fed. 597, at page 607, in disposing of a similar contention there made and holding the claim valid and infringed, said:

> "It is not essential to the validity of claim 3 that all parts of the machine, or all parts specified in other claims, which are necessary to its operativeness, should be included therein, and resort must be had to the spec-

ification for a disclosure of the parts necessary to insure the practicability of a patented device. In the Wright structure a new and novel result was attained simply by having the ailerons on the ends of the planes, without the supplemental feature of the vertical rudder. The warping feature is, in fact, the essential part of the machine, while the vertical rudder, insuring successful flying, is a valuable adjunct, without which lateral balance could not be restored. The employment, in a changed form, of the warping feature or its equivalent by another, even though better effects or results are obtained, does not avoid infringement. In such circumstances, as I read the authorities, the claim is valid as a subcombination. *Thomson-Houston Electric Co.* v. *Black River Traction Co.,* 135 Fed. 759, 68 C. C. A. 461; *Deering* v. *Winona Harvester Works,* 155 U. S. 286, 15 Sup. Ct. 1187, 39 L. E. 153; *Taylor et al* v. *Sawyer Spindle Co.,* 75 Fed. 301, 22 C. C. A. 203. In *Railroad Co.* v. *Dubois,* 12 Wall. 47, 20 L. Ed. 265, the Supreme Court of the United States says:

> " 'Undoubtedly a patentee may claim and obtain a patent for an entire combination, or process, and also for such parts of the combination or process as are new and useful, and he may claim and obtain a patent for both.'

"In *Thomson-Houston Electric Co.* v. *Black River Traction Co., supra,* Judge Wallace, writing for the Circuit Court of Appeals said:

> " 'Many subcombinations, although new, are not useful, except to perform their appropriate functions in the machine of which they are a part. The description in the patent of the whole machine, and of the means or mode by which the subcombination is brought into co-operative relation with the other parts, usually indicates how the subcombination may effect a useful result. When this is so the combination need not be operative alone, because (to use the language of Mr. Walker) "utility is justly ascribed to things which have their use in co-operating with other things to perform a useful work." In *Taylor* v. *Sawyer Spindle Co.,* 75 Fed. 301, 309, 22 C. C. A. 203, 211, in considering the objection that the claims by themselves

> were void, because not composing an operative mechanism, the court said: "The law upon this subject is too well settled to be open for discussion. A patentee is not required to claim the entire machine in each claim. Each of the claims at issue is for a complete combination of the spindle and its supporting tube and devices, and there was no necessity for expressing in terms the devices for revolving the spindle. Any appropriate means for operating it will be understood. The omission of the sleeve wheel does not affect the validity of either of the claims, which belong to that class where reference may be made to the specification to supply in a claim what is plain to any one skilled in the art." '
>
> "To a similar effect, see *Canda et al.* v. *Michigan Malleable Iron Co.,* 124 Fed. 486, 61 C. C. A. 194, and *Clark Blade & Razor Co.* v. *Gillette Safety Razor Co.,* 194 Fed. 421, 114 C. C. A. 383."

This decision was affirmed by the Court of Appeals for the Second Circuit, 211 Fed. 654, the court saying:

> "We are in full accord with the reasoning by which Judge Hazel reached the conclusion that the patent was valid and infringed."

In *Deering* v. *Winona Harvester Works,* 155 U. S. 286, the court in holding the patent there sued on valid and infringed, speaking through Mr. Justice Brown, said at page 302, in disposing of the defendant's contention there that the claim did not comply with the Revised Statutes:

> "Admitting that additional elements are necessary to render the device operative, it does not necessarily follow that the omission of these elements invalidates the claim, or that the precise elements described be read into the claim."

In order to determine what is meant by "a control system" for an elevator car and switches within and without the car being "*operable*" to cause the stopping of the car at the respective landings it must be understood that the switches are connected through proper circuits to bring about the desired result. The use of the words "operable

to cause'' in claim 37 necessarily brings in these other operative features when considering the validity of the claim.

In *Chambers-Bering-Quinlan* v. *Faries,* 64 Fed. 587, (D. C. Ill.) Judge Allen, in holding the sub-combination claim there asserted valid and infringed, said at p. 588:

> ''The defense relied on for the sixth claim is that it is for an inoperative combination. Anticipation is not asserted. This objection is not well taken, as the law is well settled that a valid combination claim may be taken for a less number of parts than are required for the complete operation of a machine. *Forbush* v. *Cook,* 2 Fish. Pat. Cas. 668, Fed. Cas. No. 4,931; *Inspirator Co.* v. *Jenks,* 21 Fed. 911; *Jenkins* v. *Gurney,* 23 Fed. 898; *McDonald* v. *Whitney,* 24 Fed. 600.''

In *Hancock Inspirator Co.* v. *Jenks,* 21 Fed. 911, (C. C. Mich.), Judge Brown in disposing of defendants' contention there that the claim asserted did not comply with the Revised Statutes, said at p. 915:

> ''Now, while it is entirely true that the combination stated in these claims would be obviously inoperative without such induction tube and chamber, still, by adding these elements, the construction would be equally inoperative without a boiler to furnish the steam and a well to supply the water, and a pipe leading to and from the boiler. But, in drawing the claims for a combination patent, we do not understand it to be necessary to include any elements except such as are essential to the peculiar combination, and are affected by the invention. Other portions of the machine are usually shown in the drawings to exhibit their relation to the patented combination, and they are wholly unnecessary to the validity of the claims. Indeed, it is manifest that the more elements introduced into the combination, the easier it would be to evade the patent; since, to sustain a suit for infringing a combination, it must be made to appear that the defendant used every element of such combination, however immaterial it may be. *Vance* v. *Campbell,* 1 Black, 429.''

In *Taylor* v. *Sawyer Spindle Co.*, 75 Fed. 301 (C. C. A. 3) the court in holding the claim there involved valid and infringed, said at p. 309:

> "A patentee is not required to claim the entire machine in each claim. Each of the claims at issue is for a complete combination of the spindle and its supporting tube and devices, and there was no necessity for expressing in terms the devices for revolving the spindle. Any appropriate means for operating it will be understood. The omission of the sleeve whirl does not affect the validity of either one of the claims, which belong to that class where reference may be made to the specifications to supply in a claim what it is plain, to any one skilled in the art, is a necessary incident. *Reece Buttonhole Mach. Co.* v. *Globe Buttonhole Mach. Co.*, 10 C. C. A. 194, 61 Fed. 970; *Deering* v. *Harvester Works,* 155 U. S. 286, 15 Sup. Ct. 118. The decree of the circuit court is affirmed."

In *Thomson-Houston Electric Co.* v. *Black River Traction Co.,* 135 Fed. 759 (C. C. A. 2) the court, in holding the sub-combination claim there sued on valid and infringed, said at p. 763:

> "Many subcombinations, although new, are not useful, except to perform their appropriate functions in the machine of which they are a part. The description in the patent of the whole machine, and of the means or mode by which the subcombination is brought into co-operative relation with the other parts, usually indicates how the subcombination may effect a useful result. When this is so, the combination need not be operative alone, because (to use the language of Mr. Walker) 'utility is justly ascribed to things which have their use in co-operating with other things to perform a useful work.' In *Taylor* v. *Sawyer Spindle Co.,* 75 Fed. 301, 309, 22 C. C. A. 203, in considering the objection that the claims by themselves were void because not composing an operative mechanism, the court said:
>
> > " 'The law upon this subject is too well settled to be open for discussion. A patentee is not required to claim the entire machine in each claim. Each of the claims at issue is for a complete com-

bination of the spindle and its supporting tube and devices, and there was no necessity for expressing in terms the devices for revolving the spindle. Any appropriate means for operating it will be understood. The omission of the sleeve wheel does not affect the validity of either of the claims, which belong to that class where reference may be made to the specification to supply in a claim what is plain to anyone skilled in the art.' ''

"EXHIBIT B."

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA
CENTRAL DIVISION.

Otis Elevator Company, *Plaintiff*, *vs.* Pacific Finance Corporation, and Llewellyn Iron Works, *Defendants.*	In Equity No. M-25-J

PLAINTIFF'S BRIEF IN RESISTANCE TO MOTION TO DISMISS DATED JUNE 17, 1931.

STATEMENT.

This cause was argued before this Court on the 15th of October, 1930, and is awaiting its decision as to whether a decree recommended by the Master on February 25, 1930, shall be entered in conformity with his report and an injunction issued restraining defendant from its infringement of the patent in suit and ordering an accounting of profits and damages therefor.

In making his recommendation as to the judgment to be entered herein, the Master concluded that the Parker Reissue Patent No. 16,297, granted March 23, 1926, on a "control for electric elevators" owned by the plaintiff, and particularly claims 3, 22, 29, 40, 41 and 65 are good and valid; that claims 3, 22, 29, 40 and 65 thereof have been infringed by the defendants; and that claim 37 is invalid for indefiniteness under section 4888 of the Revised Statutes and claim 41 is not infringed.

Notwithstanding the fact that no findings have been made by this Court or any decree entered pursuant to the recommendations of the Master, the defendants notified the plaintiff that they would move for an order or decree dismissing this cause or an order directing such other proceedings herein as to additional pleadings and proofs as may be proper on the grounds

(a) That the Master found claim 37 of the Letters Patent in suit invalid under Section 4888 of the Revised Statutes.

(b) That thereafter plaintiff did not and has not taken nor attempted to take or preserve any exception to the finding of the Master that claim 37 is invalid.

(c) That plaintiff filed in the United States Patent Office a disclaimer as to claims 34, 35, 36, 37 of the Parker patent on May 1, 1931; that plaintiff thereby abandoned the validity of claim 37 and unreasonably neglected and delayed entering a disclaimer as to claim 37.

(d) That plaintiff was unlawfully holding itself out as possessor of the sole right to make, use and vend under said void claim 37, by notice to the public demanding that competitors desist from infringement of such claim.

(e) That by reason of plaintiffs unreasonable neglect and delay in disclaiming said claim 37, the said Parker patent in suit is wholly void as to any and all claims thereof.

At the outset, it should be borne in mind—

1. That the Parker patent relates to a very important invention used by the defendants and has been so found by the Master in his recommendations to this Court.

2. That no findings have been made or decree entered by this Court concerning the recommendations of the Master.

3. That the disclaimer as to claims 34-37 was filed May 1, 1931, before plaintiffs had any indication as to the character of the decree to be entered by the Court as to whether it would confirm the conclusion of the Master that claim 37 does not comply wtih section

4888 of the Revised Statutes and is invalid because its description of the result contained in this claim, without reference to the structure, cannot be read on the structure with sufficient accuracy to define the claim.

4. That the Master has not found that claim 37 is invalid because the patentee "claimed more than that of which he was the original first inventor or discoverer" but only because of indefiniteness, and because he "considered that the other claims amply protect the invention."

5. That, even if the Court had entered a decree confirming the Master's report, before the disclaimer of claim 37 had been filed, holding claim 37 invalid solely because it did not comply with section 4888 of the Revised Statutes, an appeal would lie to the Court of Appeals from a decree so holding, if this point of law had been urged by plaintiff before the trial court, as it would have been had the disclaimer not been filed, even though no specific exceptions were taken to the Master's report. The question of the validity of this claim arising solely from incompleteness in description, *is one of law* can be raised and argued in the trial court without taking an exception and may properly be reviewed by the Court of Appeals on appeal from whatever decree is entered relative thereto.

6. That the disclaimer was not a *"necessary"* one under the Statutes and decisions but one that could properly be filed at any time prior to expiration of the patent, solely at the option of the owner of the patent.

The patent in suit is directed to entirely novel mechanical and electrical co-operating controlling means, combined in an electric elevator, whereby under normal operation the starting of the car, either in up or down direction, is entirely, singly and only initiated through a switch manually operated from within the car, and the car automatically stopped at any number of predetermined floor levels by secondary control means initiated either from within the car or from any of the various landings.

The only claims asserted in this suit were 3, 22, 29, 37, 40, 41, and 65, all of which except 37 were held valid by the Master. In so holding (Master's Pr. Rep. p. 12), he said

> "*Nothing in the prior art* shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing."

and (p. 16)

> "Parker's automatic control has eliminated the difficulties which resulted from human error such as operator's forgetting floor stops and passing waiting passengers. It also permits the use of less skilled operators and relieves the operator of the greater part of his former responsibility."

and (p. 26)

> "The invention of Parker is an important one."

It is thus clear that the Master not only found that the Parker invention was an important one, but also that none of the combinations claimed or attempted to be claimed in any of the claims asserted is shown to be old or is to be found in the prior art.

Nevertheless, with respect to claim 37 the Master said— (p. 22, Printed Report)

> "The circuits and circuit closing means are not included in the claim in any way even in general terms, such as the 'means' or 'mechanism' found in the other claims. *This description of the result without reference to structure cannot be read on the structure with sufficient accuracy to define the claim.* While the inclusion in a claim of language describing function or result does not render the claim invalid, nevertheless, *the claim must include such definition of structure that the elements of the structure claimed can be identified. It must also be considered that the other claims amply protect the invention.*

The plaintiff firmly believes and urged before the Master that claim 37 was a proper one and was sufficiently definite as a sub-combination claim to comply with Section

4888 R. S. under the authorities applicable*. Notwithstanding this, before any finding of this Court was made or any final decree entered, plaintiff filed a *"proper"*, but not *"necessary"* disclaimer as to claim 37, and others of the same general form not here asserted, because the rest of the claims of this Parker patent, more definite in terms, amply protect the invention.

In filing this disclaimer, plaintiff said—(See certified copy of disclaimer to be filed with the court):

> "The sole reason for this disclaimer is that a Special Master, in the case of Otis Elevator Company *vs.* Pacific Finance Corporation and Llewellyn Iron Works, now pending in and undecided by the District Court of the United States, for the Southern District of California, Central Division, had advised, for reasons likewise applicable to claims 34, 35 and 36, in a report filed by him, that said claim 37 is invalid as not complying with Section 4888 of the Revised Statutes, and as he 'considered that the other claims amply protect the invention'."

The *sole reasons* given by the Master for holding, *as a proposition of law*, claim 37 invalid, is that the claim did not comply with section 4888 R. S. *as to form*, and that *"the other claims amply protect the invention,"* and not that claim 37 was invalid in view of the prior art or because Parker "claimed more than that of which he was the original or first inventor or discoverer." The disclaimer shows on its face that it was filed because the Master had advised that claim 37 did not comply with Section 4888 R. S. and because *"the other claims amply protect the invention,"* and not because plaintiff then believed, or now believes or admits, that Parker "claimed more than

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* *Wright Co.* v. *Herring-Curtiss*, 204 Fed. 597 (Judge Hazel, D. C. N. Y.) aff. C. C. A. 221 Fed. 654; *Deering* v. *Winona Harvester Works*, 155 U. S. 286, 302; *Chambers* v. *Faries*, 64 Fed. 587, (Judge Allen); *Hancock* v. *Jenke*, 21 Fed. 911 (C. C. Mich. Judge Brown); *Taylor* v. *Sawyer*, 75 Fed. 301, 309 (C. C. A. 3); *Thomson-Houston* v. *Black River Traction Co.*, 135 Fed. 759 (C. C. A. 2).

that of which he was the original or first inventor or discoverer."

It clearly appears from both the Master's report and the disclaimer filed that a disclaimer was unnecessary. It was under the statutes a "proper" disclaimer that could be filed at any time at plaintiff's election if it did not choose to longer urge claim 37, *as the other claims amply protect the invention.*

Defendants' motion *does not and cannot allege* that claim 37 is invalid because the patentee claimed more than he was entitled to, or that the plaintiff delayed in filling a disclaimer after entry of a decree or judgment of a competent court so holding. It is thus clear that defendants' motion raises no defense under the disclaimer statutes (Sections 65 and 71, Title 35, U. S. C.—R. S. Secs. 4917, 4922)*.

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* Sec. 65, Disclaimer. Whenever, through inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, a patentee has *claimed more than that of which he was the original or first inventor or discoverer*, his patent shall be valid for all that part which is truly and justly his own, provided the same is a material or substantial part of the thing patented; and any such patentee, his heirs or assigns, whether of the whole or any sectional interest therein, may on payment of the fee required by law, make disclaimer of such parts of the thing patented as he shall not choose to claim or to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent. Such disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office; and it shall thereafter be considered as part of the original specification to the extent of the interest possessed by the claimant and by those claiming under him after the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing it. (R. S. Sec. 4917).

"Sec. 71. Suit for infringement where specification too broad. Whenever through inadvertence, accident, or mistake, and without any wilful default or intent to defraud or mislead the public, a patentee has, in his specification, *claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the original and first inventor or discoverer*, every such patentee, his executors, administrators, and assigns, whether of the whole or any sectional interest in the patent, may maintain a suit at law or in equity, for the infringement of any part thereof, which was bona fide his own, if it is a material and substantial part of the thing patented, and definitely distinguishable from the parts claimed without right, notwithstanding the specifications may embrace more than that of which the patentee was the first inventor or discoverer. But in every such case in which a judgment or decree shall be rendered for the plaintiff no costs shall be recovered unless the proper disclaimer has been entered at the Patent Office before the commencement of the suit. But no patentee shall be entitled to the benefits of this section if he has unreasonably neglected or delayed to enter a disclaimer. (R. S. 4922)" (Italics ours).

The defense attempted to be raised by defendants' motion only applies to cases where the patentee *"claims more than that of which he was the original or first inventor or discoverer."* In such a case, it is necessary that a disclaimer be filed to save the patent, but it is only after a final decree or judgment (or one accepted as final) of a competent court that the patentee's time for promptly filing such a disclaimer begins to run.

Even when a disclaimer becomes necessary the patentee cannot, under the authorities, be charged with delay until after the entry of a decree or judgment from which no appeal is taken, or one from which no further appeal is permitted.

A *necessary* disclaimer (*i. e.,* where a court of competent jurisdiction has entered a decree or judgment holding that the patentee has claimed more than that which he was the first to invent, from which no appeal has been taken), must not be confounded with a *proper* disclaimer (*i. e.,* one which may or may not be filed as the patentee elects).

Where a claim has been held invalid for lack of utility or indefiniteness as not complying with Section 4888 R. S., a disclaimer is *"proper"* but not *"necessary."*

The Master in his report concluded that claim 37 of the patent in suit was invalid and recommended that the Court so decree

> (a) *not because* Parker claimed "more than that of which he was the original or first inventor or discoverer";
>
> (b) *not because* he claimed "materially more than that of which he was the first to invent";
>
> (c) *not because* he claimed to be the first, original inventor or discoverer of a substantial part of a thing of which he was not the original or first discoverer, for the Master definitely found, as shown on the face of his report, *"that the other claims amply protect the invention,"*

but because he ruled, *as a question of law,* that claim 37 did not comply with Section 4888 R. S. as to form, for it

did not include "such definition of structure that the elements of structure claimed can be identified."

The report of the Master shows that a disclaimer was not necessary as he found, *as a matter of law,* that Parker did not claim anything more than he was entitled to but that claim 37 was indefinite although it related to a subject matter *he was entitled to protect and did invent,* and that the other claims amply protected the invention. The disclaimer filed May 1, 1931, was not *"necessary,"* though *"proper"*. It affords no ground for defendants' motion.

The finding of the Master that (p. 12, Printed Report)—

> *"Nothing in the prior art* shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically in several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing."

shows

> (1) That the arrangement to which the *sub-combination* of claim 37 was directed is a sub-combination that is neither anticipated nor shown to be old by the prior art.
>
> (2) Thta Parker by sub-combination claim 37 was not claiming or attempting to claim more than that of which he was the original and first inventor, and
>
> (3) That the only reason the Master concluded that claim 37 was invalid and recommended that such a holding be included in the decree was because this claim was indefinite, and did not comply with Section 4888 R. S.* and because the in-

* "SEC. 4888. Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle so as to distinguish it from other inventions; and he *shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.* The specification and claim shall be signed by the inventor."

vention attempted to be covered by it *was amply protected by the other claims* he recommended be held valid, which more definitely express the invention set forth in claim 37.

UNDER THE STATUTES AND AUTHORITIES APPLICABLE A DISCLAIMER IS NECESSARY ONLY WHERE A PATENTEE HAS CLAIMED MORE THAN THAT OF WHICH HE WAS THE FIRST ORIGINAL INVENTOR OR DISCOVERER AND THIS DOES NOT HAVE TO BE FILED UNTIL AFTER THE ENTRY OF A FINAL DECREE BY A COURT OF COMPETENT JURISDICTION.

Parker's claim 37 does not "claim more than that of which he was the first original inventor or discoverer." The Master very definitely found not only that "the other claims amply protect the invention", but that

> "Nothing in the prior art shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control actuated at any time before the car reaches the selected landing."

It was to such a combination that the claims asserted, including the sub-combination claim 37, were directed.

The sole reason for the Master's conclusion and recommendation that claim 37 be held invalid by decree of this Court is because he concluded, erroneously, we think, that the sub-combination there claimed was indefinite and for that reason only did not comply with Section 4888 R. S. Section 4888 of the Revised Statutes requires, among other things, that the patentee—

> "shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery."

In the present case the Master, in recommending that a decree be entered holding claim 37 invalid, said (p. 22 Pr. Rep.):

"The circuits and circuit closing means are not included in the claim in any way even in general terms, such as the 'means' or 'mechanism' found in the other claims. This description of the result without reference to structure cannot be read on the structure with sufficient accuracy to define the claim. While the inclusion in a claim of language describing function or result does not render the claim invalid, nevertheless, the claim must include such definition of structure that the elements of the structure claimed can be identified. It must also be considered that the other claims amply protect the invention. It is concluded that Claim 37 does not comply with Section 4888 of the Revised Statutes and is, therefore, invalid."

The Supreme Court in *Cartridge Co.* v. *Cartridge Co.*, 112 U. S. 624, in considering the disclaimer statutes and laying down the rule as to when disclaimers are necessary, speaking through Mr. Justice Blatchford, said at p. 642:

"It is a patentee who '*has claimed more that that of which he was the original or first inventor or discoverer,*' and only '*such patentee,*' or his assigns, who can make a disclaimer; and the disclaimer can be a disclaimer only 'of such parts of the thing patented as he shall not choose to claim or hold by virtue of the patent or assignment.' A disclaimer can be made only when something has been claimed of which the patentee was not the original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented. It is true, that, in so disclaiming or limiting a claim, descriptive matter on which the disclaimed claim is based, may, as incidental, be erased, in aid of, or as ancillary to, the disclaimer. *But the statute expressly limits a disclaimer to a rejection of something before claimed as new or as invented, when it was not new or invented, and which the patentee or his assignee no longer chooses to claim or hold.* It is true that this same end may be reached by a reissue, when the patentee has claimed as his own invention more than he had a right to claim as new, but, if a claim is not to be rejected or limited, but there is merely 'a defective or insufficient specification,' that is, description, as distinguished from a claim, the only mode of correcting it was and is by a reissue."

The Supreme Court has since repeatedly cited this case with approval.

In *Carson* v. *American Smelting Co.,* 4 Fed. (2) 463, the Court of Appeals of this Circuit has recognized and followed the ruling laid down by the Supreme Court in *Cartridge Co.* v. *Cartridge Co.* case In dealing with the disclaimer involved, it said at page 469:

> "It is intended for the protection of the patentee as well as the public, and ought not, therefore, to receive a construction that would restrict its operation within narrower limits than its words fairly import.' In *Cartridge Co.* v. *Cartridge Co.,* 112 U. S. 624, 642, 5 S. Ct. 475, 485 (28 L. Ed. 828), it was said: 'A disclaimer can be *made only when something has been claimed of which the patentee was not the original or first inventor, and when it is intended to limit a claim in respect to the thing so not originally or first invented.*' Said the court in *Sessions* v. *Romadka,* 145 U. S. 29, 40, 12 S. Ct. 799, 801 (36 L. Ed. 609): 'The power to disclaim is a beneficial one, and ought not to be denied, except where it is resorted to for a fraudulent and deceptive purpose.''

Walker on Patents, Fifth Edition, p. 265, Section 195, says—

> "Mistakes of fact, relative to how much of a described process, machine or manufacture was first invented by its patentee, frequently follow from lack of full information touching what was previously invented by others. Litigation may alone disclose the fact that the patentee's claims are too numerous or too broad to be consistent with novelty. Whenever this occurs, it is clear that the patentee ought no longer to appear to hold an exclusive right to anything which he was not the first to invent. To this end, the statute provides that he must disclaim that part, within a reasonable time, or, in default thereof, must suffer the statutory consequences. On the other hand, it is equally clear, that if the patentee is willing to eliminate from his claims, everything which later information shows *had been invented before him,* he ought to be allowed to retain his exclusive right to the residue. To this end,

> *the statute provides that if within a reasonable time, he disclaims what was another's, he shall be enabled to enforce his patent as far as it covers what was his own invention.* But a disclaimer cannot confine claim to ground which does not appear in the patent to constitute an invention; even where that ground is narrower than that which was originally claimed in the patent."

In a very recent case, *Sachs* v. *Hartford Electric Supply Co.*, 47 Fed. (2) 743 (C. C. A. 2), Circuit Judge Learned Hand, in dealing with a disclaimer filed to limit the claims, said at p. 747:

> "However, we do not see that these limitations were in any sense *necessary* to escape the prior art. *A disclaimer is to abandon some part of the invention of which the patentee is not 'the first and original inventor'. If he has claimed originally too much, so that the claims are invalid under the prior art,* the part disclaimed must be clearly separate in the body of the specifications; if he wishes to recast the whole, he must go to a reissue. But there is no objection to his limiting a valid patent as his fears may dictate; * * * It is a timorous retreat from positions which he could have successfully maintained."

THE FAILURE TO FILE A PROPER BUT UNNECESSARY DISCLAIMER IS NOT INJURIOUS TO THE REMAINING CLAIMS UNDER THE STATUTES AND AUTHORITIES APPLICABLE, BUT MAY BE FILED ANY TIME BEFORE THE EXPIRATION OF THE PATENT AT THE PATENTEE'S ELECTION.

The disclaimer statutes and authorities only *require a disclaimer* when the "patentee has claimed more than that of which he was the first and original inventor." Such a disclaimer is called a "*necessary*" disclaimer because it is imperative that it be filed without unreasonable delay after final judgment or decree of a competent court holding it invalid in order to save the remaining claims. A disclaimer which does not fall within that requirement is not a "*necessary*" one and may or may not be filed at the patentee's election, but it is a "proper" disclaimer. To illus-

trate, when a claim has been held invalid, even in a final decree, solely for lack of utility or solely because it is indefinite, and does not comply with Section 4888 R. S., no disclaimer is necessary or required, but in such a case a disclaimer may properly be filed if and whenever, the patentee so elects. The remaining claims are affected only where the disclaimer was "*necessary*".

Robinson on Patents, in dealing with "*proper*" though not "*necessary*" disclaimers, says, Vol. 2, page 293, section 652:

> "A disclaimer filed without sufficient cause is a nullity under this as well as the former section of the act. If there is no real excess of Claim, according to the construction given to its language by the Court, the filing of a disclaimer by the plaintiff, pending suit, does not admit his inability to recover costs. A disclaimer leaving the patent to claim the entire invention, as the courts must have construed it had the disclaimer not been filed, is equally inoperative both as an amendment and upon the costs. The same is true of a disclaimer of a part or act not claimed in the patent, and of such features as the court finds merely formal and not essential to the idea of means embodied in the invention as originally claimed."

Here the Master construed the claims he recommends be sustained as covering the invention attempted to be covered by the sub-combination of claim 37, for he definitely stated as one of his reasons for advising, as a proposition of law that claim 37, was invalid—

> "that the other claims amply protect the invention."

Therefore, under the statement of Robinson in his work on Patents a disclaimer was wholly unnecessary here and need not have been filed. It was filed only because the owner of the patent elected to file it to save further controversy and expense over it, and not because it was obliged to do so under the statutes or decisions.

Walker on Patents, Sixth Edition, quoted with approval

by the Supreme Court in the *Ensten* case, *infra,* on which the defendants here mainly rely, stating, page 334, Section 248, in dealing with unnecessary disclaimers:

> "There appears to be no warrant in the statute, for disclaiming any claims which is void for want of utility, and for no other cause. An inventor of a new thing may generally ascertain its character in point of utility before applying for a patent. If he can do so, he ought to do so, and thus shield the public from a waste of time involved in examining and judging useless contrivances. Where a patent has but one claim, and where the matter covered by that claim is useless, no disclaimer could make that patent valid. Where a part only of the claims of a patent are void for want of utility, and for no other cause, the void claims are not injurious to the valid ones, and therefore no disclaimer is needed in any such case.
>
> "And no disclaimer is necessary where some, but not all of the claims of a patent are void, by reason of constructive abandonment, resulting from public use or sale of the subjects of those particular claims, more than two years prior to the application for the patent."

Again Walker says (p. 341):

> "The case where a disclaimer is necessary to save the patent *must, however, be distinguished from the case where a disclaimer would be merely proper, as, for instance where a claim is invalid for incompleteness of description,* as in the latter case the foregoing rule as to costs does not apply."

Again Walker says (p. 337, Section 251):

> "There is one difference between the two disclaimer sections of the Revised Statutes, which it is proper to mention and explain in this place. Section 4917 contemplates disclaimers as being proper whenever a patentee has claimed more than that of which he was the first inventor; while Section 4922 attends only to cases wherein the excess is a material or substantial part of the thing patented. This qualification should be inserted in the two sections as construed together because Section 4922 is the only one that prescribes any evil result from a failure to disclaim. Neither section

> visits any infliction on the patentee, for omitting to disclaim anything which is an *immaterial part* of the thing patented. If, therefore, a patentee omits to disclaim such a part when he discovers it to have been known before his invention thereof, or learns that it is not an invention at all, he thereby loses no right, and incurs no inconvenience. To file a disclaimer, in such a case, is an act which is at once harmless and unnecessary."

In the pending case, if the Master is right in concluding that claim 37 of the Parker patent is indefinite and incomplete and failed to comply with Section 4888, then it never was a claim which covered an invention. It merely amounted to a paragraph of immaterial reading matter which need not, but may be, disclaimed. According to Walker—

> "To file a disclaimer, in such a case, is an act which is at once harmless and unnecessary."

In *National Electric Signaling Co.* v. *DeForest Wireless Telegraph Co. et al.*, 140 Fed. 449, (C. C. S. D. N. Y.) Judge Wheeler in distinguishing between "*necessary*" and "*proper*" disclaimers and dealing with a situation where a claim is invalid for "indescription", said at page 455:

> "The statutes restricting costs upon filing a disclaimer after suit seems only to apply where a disclaimer is necessary to upholding the patent, and is filed for the purpose of saving it. That is not the situation here. No part of the invention set forth to which the claims held valid apply needs to be disclaimed to make or leave them valid. *The doubt about those in question not held to be valid arises from their description of what is claimed, and not from failure of right of the patentee to what they might have covered. The various forms of claims for the same thing need not all be valid; and those that for indescription are not valid need not be disclaimed in order to recover upon those that describe the actual invention.* That costs were not mentioned was not intended to indicate that they should not follow the recovery. "
>
> "The decree is made to conform to these views."

Judge Wheeler thus clearly held that a claim which was invalid for incompleteness or indescription, both meaning the same thing, need not be disclaimed, that is, such a situation does not require or make "necessary" a disclaimer. This is precisely the condition in the present case.

In *Marconi Wireless Telegraph Co.* v. *DeForest Radio Telephone & Telegraph Co.,* 243 Fed. 560, (C. C. A. 2nd, Cox, Rogers and Hough, Circuit Judges) Circuit Judge Hough in delivering the opinion of the Court, in disposing of the contention there made that the patent in suit was made void by an unlawful disclaimer, said (p. 565):

> "The mistake (if there was one) was in claiming something not needed, and the disclaimer abandoned what was not wanted, without broadening or enlarging any claim; it also left the claims fully supported by the original specification. No injury to defendant, or any one else, is shown."

The Court of Appeals for the Ninth Circuit in *Carson* v. *American Smelting & Refining Co.,* 4 Fed. (2) 463, *supra,* at p. 470, speaking through Circuit Judge Gilbert, adopted and quoted the above language of Judge Hough with approval.

In the present case, if we follow the Master's report, the mistake (if there was one) was in attempting to cover a sub-combination by claim 37, which was not needed because he states "the other claims amply protect the invention."

The scope of the sustained claims of the Parker patent is not affected by the proper but not necessary disclaimer of claim 37. There is no injury to this defendant, which has infringed the Parker patent, or anyone else, by the canceling of a claim which is said to be so indefinite as to be improper under Section 4888 R. S. This is especially so where, as here, there can be no contention that claim 37 is met by the prior art or that the "patentee claimed more

than that of which he was the original or first inventor or discoverer."

In *Whitney* v. *Boston & A. R. Co. et al.,* 50 Fed. 72, (C. C. Mass.) Judge Nelson said:

> "Defendants' motion to withhold a decree in favor of the plaintiff until the plaintiff shall have disclaimed the 1st, 4th, 5th, 6th and 7th claims of his patent is denied, upon the ground that, assuming, as the defendants contend, that the evidence in the case proves that said claims cover what had been in public use and on sale for more than two years prior to the plaintiff's application for his patent, yet, since it appears that the plaintiff was the original and first inventor of the parts of his invention secured by said claims, he is therefore not required by Rev. St. sec. 4922, in order to entitle himself to a decree for an infringement of the second and third claims of his patent, to make disdisclaimer of the other claims."

The courts have repeatedly refused to insist on disclaimers even where the evidence shows that claims *not in suit* were invalid in view of the prior art.

We have found no cases where any court required a disclaimer where one of the claims sued on was held invalid for an incomplete description or indefiniteness, or lacking in utility, that is, did not comply with Section 4888 R. S.

It is clear under the statutes and authorities that a disclaimer was not "*necessary*" in the present case but that the one filed is "*proper*" and one that may or may not have been filed at plaintiff's election without any injurious results to the sustained claims.

THE ENSTEN CASE, 282 U. S. 445, UPON WHICH DEFENDANT RELIES, DOES NOT SUPPORT DEFENDANTS' MOTION. IT DOES NOT APPLY TO THE SITUATION HERE.

Bearing in mind that the "*proper*" *though not* "*necessary*" disclaimer of claim 37 of the Parker patent in suit, as well as claims 34, 35, 36 not relied upon, was filed while

this Court had the Parker patent under advisement for its determination and before any findings of fact were filed or any decree entered by it, and that an appeal would lie to the Court of Appeals of this Circuit, if a decree should be entered confirming the finding of the Master that claim 37 was invalid, and plaintiff had insisted on a ruling as to the legal conclusion as to the validity of claim 37 instead of filing a disclaimer of it, we submit that defendants' motion should be over-ruled and that the case of *Ensten* v. *Simon, Ascher & Co.,* 282 U. S. 445, is no authority for the sustaining of defendants' present motion in the instant case.

In the *Ensten* case, the patent contained six claims which were asserted in the Northern District of Ohio (*Ensten* v. *Rich-Sampliner Co. et al.*). An interlocutory decree was filed May 24, 1922, that adjudged claims 1, 3, 4 and 5 valid and infringed and held claim 2 invalid in view of the prior art. In other words it was held as too broad and included more than that of which "the Patentee was the original or first inventor or discoverer." Within thirty days the defendants appealed from so much of the decree as upheld the four claims. Complainant might have, but did not appeal, from that portion of the decree holding claim 2 invalid, in view of the prior art, and hence the validity of claim 2 was not before the Court of Appeals when it approved the decree so far as challenged by the defendants as to claims 1, 3, 4, 5. The plaintiff, not having appealed from the holding that claim 2 was invalid, as claiming more than that of which he, the Patentee, was the original or first inventor or discoverer, and the Court of Appeals having affirmed that decree, the plaintiff was thereby prevented from ever again asserting in that suit the validity of claim 2.

Notwithstanding no appeal was taken from the interlocutory decree of May 24, 1922, the plaintiff waited until

April 30, 1924, to file a disclaimer as to claim 2 in the Patent Office.

Judge Westenhaver in the case of *Ensten* v. *Simon, Ascher & Co.,* (38 F. (2) 71), and the Court of Appeals of the Sixth Circuit, held that the patentee had unreasonably neglected and delayed disclaiming claim 2 after the District Court in Ohio had decreed it invalid, from which decree no appeal was taken.

The Supreme Court in the Ensten Case quotes from the opinion of *O'Reilly* v. *Morse* (1853) 15 How. 62, as follows (p. 454):

> "It appears that no disclaimer has yet been entered at the Patent Office. But the delay in entering it is not unreasonable. For the objectionable claim was sanctioned by the head of the Office; it has been held to be valid by a Circuit Court and differences of opinion in relation to it are found to exist among the justices of this court. *Under such circumstances the patentee had a right to insist upon it, and not disclaim it until the highest court to which it could be carried had pronounced its judgment.*

Again the Court says (p. 455):

> "In certain definitely defined circumstances, and to the end that the mistaken but honest inventor may obtain relief from the old rule, the disclaimer provisions permit him to deprive the public temporarily of complete freedom from the assertion of a monopoly apparently valid, but not so in fact. *When a competent court had declared his pretensions without sufficient foundation, we think good faith and the spirit of the enactment demand that he act with such promptness as the circumstances permit either to vindicate his position or to relieve the public from further evil effects of his false assertion.*

And again the Court says (p. 455):

> "When the District Court in Ohio declared claim 2 invalid, the owner of the patent might have appealed to the Circuit Court of Appeals within thirty days and thus secured an early determination of his rights. He did not choose this course but continued to hold him-

> self out as possessor of the sole right to 'make, use and vend' under the rejected claim, for nearly two years. Then he abandoned it. He made no effort promptly to vindicate what he had asserted nor did he surrender it. Thus he failed to earn the offered exemption and now he may not complain."

Again on page 457, the court says:

> "Certainly, in this case where an appeal was taken by the defendants, it would have entailed no unreasonable hardship upon the patent owner promptly to have submitted the legality of the rejected claim for determination by the appellate court. The route to that end was obvious, easy, inexpensive. He deliberately failed to defend his assertion of right by appealing. He has been guilty of unreasonable delay and has not brought himself within the beneficent provisions of the statute."

The opinions in the Ensten cases show conclusively that claim 2 of the patent there involved was decreed invalid *in view of the prior art;* therefore, the patentee had "claimed more than that of which he was the original or first inventor or discoverer." This decree having been entered and an appeal having been taken to the Court of Appeals by the defendant as to the validity of claims 1, 3, 4 and 5, within the time allowed for appeal from an interlocutory decree, and the plaintiff having taken no appeal from the interlocutory decree holding claim 2 invalid in view of the prior art, the decree of the trial court became final as to claim 2 and the patentee was thus under the immediate obligation of filing disclaimer if he desired to maintain the rest of his patent under the disclaimer statutes. Such a disclaimer was "necessary" under the statutes and decisions. The patentee filed no such disclaimer of claim 2 for nearly two years and under these circumstances the trial court, Court of Appeals, and the Supreme Court held the patent invalid because of failure to promptly file the disclaimer.

In the instant case, no such situation exists as in the Ensten case referred to for the following reasons:

In the instant case—

1. Claim 37 of the Parker patent does not claim more than that of which Parker was the original or first inventor or discoverer nor "materially more than that which he was the first to invent."

2. The Master recommended that claim 37 drawn to a sub-combination be decreed invalid only because it was indefinite and hence did not comply with Section 4888 R. S. and because he "considered that the other claims amply protect the invention." There is not possible interpretation of the Master's report that Parker by claim 37 claimed more than that of which he was the original or first inventor.

3. There were no findings by this court nor any decree entered by it holding that claim 37 of the Parker patent was invalid at the time the disclaimer was filed nor has there been any indication as to any such findings or decree up to the present time.

4. Had not plaintiff filed a disclaimer of claim 37 prior to the entry of a decree by this court confirming the Master's report and thereby holding claim 37 invalid, the plaintiff was at liberty to have raised and argued, without taking an exception, the legal conclusion as to whether claim 37 was valid under section 4888 of the Revised Statutes and could have appealed from that portion of any decree holding claim 37 invalid. Therefore, as stated by the Supreme Court, 282 U. S. 453,

> "The allowance of his claim by the patent Office raises such a presumption in its favor that he may rely on its validity until a court of competent jurisdiction decides it is broader than his real invention."

and page 454:

> "The patentee had a right to insist upon it and not disclaim it until the highest court to which it could be carried had pronounced its judgment."

5. The mere failure to file exceptions to a Master's report, on a conclusion of law, does not prevent the party not taking exceptions, from raising and arguing a question of law such as that involving the question

of whether a claim complies with Section 4888 R. S. or not, nor does it prevent his having the Court of Appeals thereafter review the decree of the District Court thereon.

6. Until a decree has been finally entered holding a claim invalid and this decree has either been affirmed by the highest court to which an appeal is taken or no appeal taken within the time permitted by statute, a patentee who has had a claim allowed to him is under no obligation to file a disclaimer to that claim under the Federal Statutes, even where he claims more than that of which he was the original or first inventor or discoverer.

7. Parker, having claimed no more than that of which he was the original or first inventor or discoverer, was under no obligation to file any disclaimer of claim 37, even though the Master recommended that a decree be entered holding this claim invalid because of indefiniteness and that the other claims amply protect the invention. It was unnecessary for him to do so.

8. Parker, having filed a proper disclaimer of claim 37, even though he was the inventor of the subject-matter thereof, was not required by any statute to do so in order to maintain his patent.

9. The owner of the Parker patent cannot be charged with any delay in the entering of the final decree in this case or in the filing of a disclaimer of anything it saw fit to disclaim prior to the entry of a decree or failure to appeal therefrom.

10. A Master's report is only advisory *on questions of law* such as is involved in his recommendation for a decree as to claim 37.

11. There is no possible theory on which delay could be predicated, even though the situation in the present case required a *"necessary"* disclaimer, which it does not.

12. The Federal Statutes do not require any disclaimer whatsoever unless *"the patentee has claimed more than that of which he was the original or first inventor or discoverer."* This Parker has not done nor has the Master so held. Under such circumstances, Parker was entitled to file his *"proper"* though not *"necessary"* disclaimer when he did or in fact at any time prior to the expiration of his patent, if he so desired. Even in the Ensten case, upon which the de-

fendants solely rely, the Supreme Court clearly recognized that the time for filing even a necessary disclaimer does not start to run until a court of competent jurisdiction has entered a decree or judgment from which an appeal can be taken holding that "the patentee claims materially more than that of which he was the original or first inventor" and also that he should not even then be required to disclaim it "until the highest court to which it could be carried had pronounced its judgment."

THE EXCEPTION TO THE GENERAL RULE IS THAT NO EXCEPTIONS NEED BE FILED TO THE LEGAL CONCLUSIONS OF A SPECIAL MASTER.

In *Central Improvement Co.* v. *Cambria Steel Co.,* 210 Fed. 696, 699 (C. C. A. 8) the general rule is that—

> "Where no exception is taken to the master's report it will be deemed to be true, and where exceptions to parts of it are taken the parts to which no exception is taken will stand as correct and will not be open to review in an appellate court",

but that—

> "This rule, like most rules of law or practice, is not without its exceptions",

and refers to *Sheffield* v. *Gordon,* 151 U. S. 285, 291, where the Supreme Court said:—

> "It is true that if the report of the Master is clearly erroneous in any particular, it is within the discretion of the court to correct the error,"

The Court of Appeals in the Cambria case further said (p. 700):

> "In 2 Daniell's Chancery Pleading and Practice, at page 1314, it is said that it is entirely discretionary with the court to grant an opportunity to except to a report after it has been absolutely confirmed * * * suits in chancery are tried and reviewed in view of the fact that a court of equity has and frequently exercises the power where justice may thereby be done, to grant to litigants the right remedy although they have sought the wrong one. * * * As an appeal in equity in the Federal Courts results in a trial *de novo,* the

> appellate court is not, in our opinion, so powerless that it is compelled to affirm an unjust decree; nor is the appellant so conclusively estopped that it may not attack such a decree by the fact that it gave a wrong reason for its exception to the erroneous conclusion of the master it assails."

In *Burke* v. *Davis,* 81 Fed. 907, the Court of Appeals for the Seventh Circuit considering a case where no exceptions are filed by the complainant and their motion thereafter made for leave to file exceptions being denied, nevertheless considered the case without exceptions and reversed the decree of the District Court. On the question of want of exceptions to the master's report, the Court said:—(p. 910)

> "In the absence of exceptions to the report there can be no inquiry into the correctness of the master's findings of fact; but whether the proper decree was entered upon the report is nevertheless open to consideration. The master's mistaken apprehension of the legal consequences of the facts reported, as Daniell stated it, 'may be opened to further directions, without exceptions'."

In *Celluloid Mfg. Co.* v. *Cellonite Mfg. Co.,* 40 Fed. 476, C. C. N. Y., the case came on for argument on exceptions to the master's report. The defendant took no exceptions as to certain *findings of fact,* and Circuit Judge Wallace held that these findings, therefore, should not be disturbed. However, as to the practice as to *conclusions of law* where no objections were filed, the Court stated (p. 477):—

> "The practice thus referred to does not preclude the defendant from being heard upon a question of the correctness of the legal conclusion reached by the master. Where the master, by his report, states the facts correctly, but errs as to the legal conclusion, the party against whom he errs is not required to except to the report, but may bring the question to the attention of the court upon further directions; or, if the report is made pursuant to an interlocutory decree, when the cause comes on to be disposed of by a final decree. 2 Daniell, Ch. Pr. 149. The cause remains under the

control of the court until disposed of by a final decree, and until then it can revise the interlocutory decree, or any proceeding in the cause; and it is its duty to correct any error of the master affecting the merits, as well as any error of its own, properly brought to its knowledge. *Vooster* v. *Handy,* 22 Blatchf. 308, 21 Fed. Rep. 51; *Perkins* v. *Fourniquet,* 6 How. 206; *Fourniquet* v. *Perkins,* 16 How. 82."

In *Smith* v. *Seibel,* 258 Fed. 454, D. C. Iowa, as no exceptions to the Master's report were filed within the twenty days permitted, the Court, District Judge Reed, held (p. 456):—

"as no exceptions were filed thereto within 20 days, the report *as to the facts,* under equity rule 66, stands confirmed, and the defendant is precluded from urging the question thus raised as against the finding of the facts by the master. But the legal conclusion of the master upon *the facts so found appears* upon the face of the report, and *may be noticed by the court.*"

In *National Folding-Box & Paper Co.* v. *Dayton Paper Novelty Co.,* 91 Fed. 822 (C. C. Ohio), the late Mr. Chief Justice Taft, sitting as Circuit Judge, in disposing of an attack made on the propriety of the Master withdrawing after formally filing, and then correcting, revising and refiling his report, said (p. 824):—

"Nor is there anything in the eighty-third equity rule which prevents action of the court upon the report of the master, summary, discretionary, or otherwise. That rule simply prescribes the course of the master in respect of filing the report, and of the parties in presenting exceptions; but it leaves the course to be taken by the court to be determined by practice in the high court of chancery in England as it was in 1842.

"It is insisted that the master, when he filed his report, became *functus officio,* and could not thereafter amend his proceedings, at a time when he was clothed with no official authority. This is the significance of the references to the 'ex-master' of which counsel's brief is so full. It will hardly be denied that the authority which the master exercised in his first report

came wholly from the court. It would seem clear that the court which gave him original authority might renew that authority. Re-references and recommitments are not so unusual as to require citations of precedents to justify them, and yet they can only be made on the theory that the court which originally conferred authority may renew it. The order of this court giving the master leave to withdraw his report for amendment necessarily gave him the authority to make an amended report, and he was as much master of the court when he made the second report as when he made the first.

"Mr. Justice Bradley, in *Thomson* v. *Wooster,* 114 U. S. 104, 112, 5 Sup. Ct. 788, speaking for the supreme court, said that the English edition of Daniell's Chancery Practice, published in 1840, contained the best exposition of the practice of the high court of chancery at the time the equity rules were adopted by the supreme court, and that to this book reference should be had when questions of federal equity practice arose which were not covered by the equity rules. In the edition of Daniell referred to, on page 961, is the following:

> " 'Although the usual course by which a review of a master's report is to be procured is by taking exceptions to it, there are many cases in which the court will direct the master to review his report without requiring exceptions to be taken, or, if they are taken, will direct it to be reviewed upon grounds independent of those laid by the exceptions; and sometimes, as we have seen, the court will direct a master to review his report in order to afford a party an opportunity for taking in objections to the draft, as a foundation for exceptions. A reference back to the master, to review a report which has not been excepted to, may be made upon the hearing for further directions, and is frequently so made when the court is not satisfied with the master's finding, as where the master has not found sufficient facts for the court to found its judgment upon. So, also, if the master has exceeded his authority, it will either direct him to review his report, or take no notice of his finding.'

"See, also, 2 Beach. Mod. Eq. Prac. Sec. 713.

"In *Mosher* v. *Joyce,* 6 U. S. App. 107, 112, 2 C. C. A. 324, 325, 51 Fed. 441, 444, Mr. Justice Jackson, then circuit judge, speaking for the court of appeals of this circuit, said:

> " 'In respect to such matters as the recommittal of accounts or a reference back to a master, the chancellor exercises a very large discretion, and is not to be put in error in his action upon such motions except upon a very clear showing of merits, and in the absence of negligence.'

"The right and power of the court to permit the master, upon his own application, to withdraw his report for amendment, would seem to be sustained by the following Massachusetts authorities: *Heywood* v. *Miner,* 102 Mass. 466; *Webber* v. *Orne,* 15 Gray, 351; *Gardner* v. *Field,* 5 Gray 600."

We understand that the defendants intend that under the case of *Riverside Heights Orange Growers Assn.* v. *Stedler,* 240 Fed. 703, C. C. A. 9th, that the rulings of the Master where no exception has been taken will be given the same force and effect as a decree of the trial court, but a reading of the complete opinion in that case fails to disclose any such holding.

In that case appellees contended that certain of appellant's assignments of errors were defective in that they raised objections to the Master's report which were not presented to or considered by the lower court. In connection with the assignments of error, Circuit Judge Morrow said (p. 706):—

"Other than this, there is no answering argument made by appellee with respect to the questions discussed in appellants' brief under these assignments. It is a well-settled rule of law that:

> " 'Exceptions to reports of masters in chancery are in the nature of a special demurrer, and the party objecting must point out the error; otherwise, the part not excepted to will be taken as admitted.' *Story* v. *Livingston,* 13 Pet. 359, 366, 10 L. Ed. 200 (citing *Wilkes* v. *Rogers,* 6 Johns. (N. Y.) 566). 'A party neglecting to bring in ob-

> jections cannot afterwards except to the report.' Id.; *McMicken* v. *Perin,* 18 How. 507, 510, 15 L. Ed. 504. 'Proper practice requires that objections to a master's report shall be taken in that (the trial) court, *that any errors discovered therein may be rectified by the court itself,* or by a reference to the master for a correction of his report, without putting parties to the delay and expense of an appeal to this court.' *Topliff* v. *Topliff,* 145 U. S. 156, 173, 12 Sup. Ct. 825, 832 (36 L. Ed. 658).
>
> "* * * There is nothing in the record to show that any of the points now urged by appellant under the second and third assignments were ever presented to or considered by the lower court, and this court will not review a master's report upon objections taken here for the first time."

It is obvious from the quoted portions that the court had in mind the *general* rule that exceptions should be taken to the Master's report. It is equally obvious that it also had in mind the *exception* to the general rule that no exceptions need be taken to errors at law but that the court itself may rectify such errors. This is clearly shown by the underlined portion quoted from Topliff *vs.* Topliff.

All that the Court of Appeals held in the Riverside case so far as the point relied upon by defendants is concerned is that objections to the Master's report cannot be urged for the first time upon an appeal to the Circuit Court of Appeals. With the proper understanding of the decision in this case, it is at once apparent that it is not applicable to the situation presented by defendants' motion to dismiss.

THE FILING OF A DISCLAIMER IS NOT A CONFESSION THAT A PATENT WOULD BE VOID IF THE DISCLAIMER WERE NOT MADE.

See: *Manhattan General Const. Co.* v. *Helros-Upton Co.,* 135 Fed. 785, 802 (C. C. Pa.); Walker on Patents, Sixth

Ed. p. 342, Sec. 258; *Bay State Optical Co.* v. *Klein,* 20 Fed. (2) 915, 917; *Permutit Co.* v. *Wadham,* 13 Fed. (2) 454, 457.

In the latter case the Court of Appeals, speaking through Circuit Judge Denison, stated at p. 457:

> "We do not understand that a disclaimer to avoid the supposed anticipating or limiting effect of some other publication is a confession that the patent would be void if the disclaimer were not made. The patentee decides a question of policy; he may think that, although the supposed anticipation can be successfully met and defeated, a disclaimer will not affect the real value of his patent, and to make it will save trouble and expense and do no harm. We see no reason why he is not at liberty, after the disclaimer as before, to deny the anticipatory effect of the other matter; and it has been so held. *Manhattan Co.* v. *Helios Co.,* 135 F. 785, 802."

CONCLUSION.

In view of the foregoing facts and authorities applicable, defendants' motion does not and cannot set up a defense under the disclaimer statutes and should, therefore, be overruled.

Respectfully submitted,

WALLACE R. LANE,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Plaintiff.

"EXHIBIT C."

DEFENDANTS' EXCEPTIONS TO MASTER'S REPORT INVOLVING CLAIM 37.

30. The Master erred in sustaining the Reissued Letters Patent in suit in effect to cover merely the function or abstract effect of a machine without limiting the patent to the means or machine disclosed therein to produce that function or effect.

31. The Master in sustaining the Reissued Letters Patent in suit has erred in holding that the patent may be held valid merely for a principle or for an idea.

32. The Master in sustaining the Reissued Letters Patent in suit erred in failing to apply the settled rule of patent law that a patent cannot issue for an idea but only for the means by which the idea is embodied in an operative mechanism.

33. The Master erred in sustaining the Reissued Letters Patent in suit and finding infringement thereof because his decision is predicated in fact upon the proposition that by the patent in suit plaintiff can monopolize every means of performing the functions of starting the car from within the car by a manual switch and stopping the car automatically from either buttons within the car or buttons at the hall landings and this proposition is fundamentally unsound it having been uniformly held that no one can have a patent for the function or abstract effect of a machine, but only for the machine which produces it.

61. The Master erred in failing to find that if claims 37, 40, 41 and 65 or either thereof of the Reissued Letters Patent in suit are construed broadly enough to include the defendants' Pacific Finance elevators, each of the same

is anticipated by the patent to Strohm, Exhibit X-10, for the Strohm patent discloses means for separating down and up push button circuits by withdrawing the shoes G.

76. The Master erred in failing to find that Claims 29 and 37 including both car and hall buttons are void for aggregation, the hall and car buttons being functionally indifferent to each other.

99. The Master erred in not finding that Claims 37, 40, 41 and 65 of the Parker Reissued Letters Patent were deliberately and intentionally restricted to separate up and down car buttons and therefore could not be interpreted to include a system embodying only a single set of car buttons for both up and down direction.

111. The Master erred in failing to find that the claims of the Reissued Letters Patent in suit are for a different invention than that claimed in the original of said letters patent.

115. The Master erred in failing to find that the bill of complaint in this case should be dismissed as to Claims 22, 29, 37, 40, 41 and 65 because of the intervening rights of defendant Llewellyn Iron Works.

122. The Master erred in failing to find that the application for the reissue of the letters patent in suit was unreasonably delayed and that said reissued letters patent are for that reason invalid.

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT,

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

PETITION FOR REHEARING OR FOR MODIFICATION OF THE OPINION OF THIS COURT FILED HEREIN JANUARY 23, 1934.

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Petitioner, Otis Elevator Company.

THE GUNTHORP-WARREN PRINTING COMPANY, 210 WEST JACKSON, CHICAGO.

Filed

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PETITION FOR REHEARING OR FOR MODIFICATION OF THE OPINION OF THIS COURT FILED HEREIN JANUARY 23, 1934.

The Otis Elevator Company, plaintiff, appellant and cross-appellee, (herein referred to as plaintiff) respectfully submits that it has been aggrieved by an opinion of your Honors filed herein January 23, 1934 in the respects hereinafter set forth and hereby petitions this Honorable Court for a rehearing of said matter.

The opinion of this Court, filed January 23, 1934, on which this petition is predicated, concluded with the statement—

> "On the cross appeal the decree will be reversed with directions to dismiss the bill; plaintiff's appeal thereby becomes moot and as such will be dismissed."

This direction to dismiss the bill and make moot plaintiff's appeal is predicated solely on the erroneous finding that claim 37 of the Parker patent is "*invalid because it claims only the function or result of an invention,*" and that plaintiff after notice thereof failed to file a seasonable disclaimer.

This Court originated the finding and was the first to hold that claim 37 of the Parker patent is "invalid because it claimed *only the function* or result of an invention."

This novel theory of invalidity has taken plaintiff entirely by surprise as it was not briefed or argued on either side before this Court, or included in the assignment of errors (R. 658). Never have defendants contended or even suggested that the Master or the trial Court held that claim 37 was invalid *because functional only.* This is the first opportunity we have had to be heard on this question.

The opinion of this Court, in view of the holding simultaneously and for the first time that claim 37 was "invalid because it claims *only the function or result* of an invention," and that a disclaimer thereof should have been filed prior to such holding, also presents the question:

Was a disclaimer necessary before the opinion of this Court becomes final?

A fundamental mistake in the opinion, as we see it, is based on the statement (p. 9):

> "Even a casual reading of the claim and the Master's finding discloses that the invalidity was not merely because of indefiniteness but *because it covered only a function.*"

We think that a *careful* analysis of claim 37 and the decisions of the Supreme and other federal courts set forth in the accompanying brief will conclusively demonstrate that this claim is for a proper "sub-combination" and is not "for a *function only.*"

Furthermore, this is the first time that any tribunal has held or indicated that there was such delay in filing a disclaimer as to render an entire patent invalid, where a Master had recommended that a claim of an otherwise valid patent be held invalid because indefinite as not complying with Section 4888 of the Revised Statutes, where the court which appointed the Master had not passed upon his report or entered any decree pursuant thereto, and where the owner of the patent had voluntarily filed a disclaimer during the pendency of the cause before the trial Court.

We hope that the Court will appreciate our analyzing the claim in question, applying the decisions of the courts to it, and pointing out inconsistencies between the opinion of this Court and accepted principles of law, as we have done in our attached brief, especially as the final opinion of this Court on the questions involved are of vital importance to the proper administration of justice and to the property rights of inventors generally in this country.

WE RESPECTFULLY SUBMIT:—

1. That claim 37 of the Parker patent in suit is *not* "invalid because it claims *only the function or result* of an invention";

2. That plaintiff had no reason to anticipate this novel, and what we believe to be erroneous, finding of this Court and filed a disclaimer years before the finding was made. (The Patent Office in allowing claim 37 held it not functional, and until the decision of this Court no other tribunal has held that it was.)

3. That the statement by this Court, on which its opinion is largely predicated, that—

> "Even a casual reading of the claim and the Master's finding discloses that the invalidity was not

merely because of indefiniteness but because it covered only a function,''

fails to take into consideration the numerous decisions of the Supreme and other courts, which conclusively show that claim 37 was for *a proper sub-combination* of mechanical elements* and does not ''cover *only* a function.''

An examination of the claims held valid in *O'Reilly* v. *Morse,* 15 How. 62, cited by the Court (as distinguished from claim 8 held invalid) and the claims before the court in the Bell Telephone case, (which distinguished between such a claim as claim 8 of the Morse patent, its other claims, and those of Bell and Parker's claim 37), and other decisions of the Supreme and other federal courts, shows that claim 37 was a proper claim, and one of the type commonly used for electrical devices and repeatedly sustained by these courts.

4. That the statement of this Court also fails to appreciate that the Master's recommendation was predicated on his conclusion that ''the circuit and circuit closing means'' are not included in the claim, whether functionally or otherwise, and for that reason only did he conclude that this claim does not comply with Section 4888 of the Revised Statutes.

5. That had plaintiff not voluntarily filed a ''proper'' though ''unnecessary'' disclaimer, because of the Master's holding of indefiniteness of claim 37 and because the other claims adequately protect the invention, two years and nine months before the opinion of this Court of January 23,

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* *Thomson-Houston Electric Co.* v. *Black River Traction Co.*, 135 Fed. 759, 763, C. C. A. 2.
Wright v. *Herring-Curtiss*, 204 Fed. 597, and affirmed on opinion below, C. C. A. 2, 211 Fed. 654, 655.
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1934, no disclaimer would have been necessary until after a final decision of this Court holding this claim "invalid because it claims only the function," and until after plaintiff had exhausted all of its rights of a review of such decision, or until the time had run for seeking such review;

6. That plaintiff was under no duty to except to the Master's recommendation that claim 37 be held invalid because indefinite, or to file a disclaimer thereof before May 1, 1931, or indeed, unless and until this Court shall have finally concluded that claim 37 is invalid because it claims only a function.

7. That had plaintiff at the time it elected to file a voluntary disclaimer seen fit to have called the trial Court's attention to the finding of the Master with respect to the validity of claim 37, it could have done so, and the trial Court could have passed upon the propriety of the Master's recommendation, but having elected to file the disclaimer long before the Court had occasion to pass upon this question, the disclaimer was filed before plaintiff exhausted its rights of review.

8. That the trial Court was right in holding that (R. 633)

> "where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim,"

and as—

> "There was no decree interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, hence in my view the matter remained at large and the commencement of the reasonable time within which the plaintiff might disclaim would be the entry of such decree."

9. That the trial Court properly denied defendants' motion to dismiss the bill of complaint predicated on the statement that the Master found claim 37 of the Letters Patent

in suit invalid under Section 4888 of the Revised Statutes, as distinguished from any allegation that said claim 37 was invalid as covering a function only, or because it claimed more than that of which the patentee was the original or first inventor or discoverer.

10. That neither the disclaimer statutes nor the decisions of the courts with respect thereto contemplate the necessity of filing any disclaimer until the patentee has discovered or become *aware with certainty* that he has claimed more than that of which he was the original or first inventor or discoverer.

Neither the disclaimer statutes nor the decisions contemplated that the patentee file a disclaimer in a situation like the present one, *where so many uncertainties* exist and where *there is so much controversy* concerning—

(a) Whether disclaimer was "proper or necessary."

(b) Whether the Master's report that claim 37 was invalid only because it did not comply with Section 4888 of the Revised Statutes.

(c) Whether before the Master's report was confirmed plaintiff had lost its right to have the trial Court review the Master's report by failure to except thereto.

(d) Whether the claim was invalid simply for *indefiniteness,* or because it covered *only* a function, and where in the former case a disclaimer would not be required, while in the latter case one would be.

(e) Whether a disclaimer must be filed before a patentee has discovered or become *aware with certainty* that he has claimed more than that of which he was the original or first inventor or discoverer.

11. That in the face of such uncertainty as has been exhibited in this case a court of equity should not retroactively impose on a patentee the duty to disclaim a claim which it for the first time simultaneously determines to be invalid as functional only.

12. That a reversal of the decree of the District Court

on cross appeal with directions to dismiss the bill, and the dismissal of plaintiff's appeal as moot, is erroneous.

In support of such statements of fact as do not appear in the printed record we tender an affidavit of Wallace R. Lane, of counsel for plaintiff, with exhibits appended thereto, as follows:

Exhibit A—Plaintiff's contentions with respect to claim 37 and the authorities filed before Master January 13, 1930.

Exhibit B—Plaintiff's brief on defendants' motion to dismiss the bill of complaint in the trial court.

Exhibit C—Defendants' exceptions to Master's report involving claim 37.

Wherefore, and for the reasons stated in the accompanying brief, it is respectfully submitted that a rehearing be granted, or in the alternative, the opinion of this Court should be reversed or reformed as to hold:

(a) That the said claim 37 is a valid claim for a sub-combination of elements of a control system for an elevator car described in the specifications of the Parker Reissue patent No. 16,297;

(b) That the Master erroneously held such claim invalid;

(c) That no question as to the time of filing a necessary disclaimer of claim 37 arises until a reasonable time after the granting or denial of this petition, and the running of the time allowed for filing a petition for certiorari to the Supreme Court of United States, and if such petition is filed, only after that court shall have either denied it or passed upon the question of whether claim 37 covered only a function;

(d) That the disclaimer filed by plaintiff on May 1, 1931, in view of the finding of the Master that the claim was not sufficiently definite to comply with Section 4888 of the Revised Statutes, was proper though unnecessary;

(e) That plaintiff did not unreasonably delay the filing of a disclaimer of such claim;

(f) That the District Court properly denied defendants' motion to dismiss the bill of complaint;

(g) That defendants' cross appeal be dismissed; and

(h) That plaintiff's appeal be allowed on the merits in all respects.

It is also respectfully submitted that the mandate of this Court may be stayed pending the disposition of this petition.

Respectfully submitted,

WALLACE R. LANE,
WILLIAM H. HUNT,
EDWIN W. SIMS,
CLARENCE J. LOFTUS,
RAYMOND IVES BLAKESLEE,
Counsel for Petitioner, Otis Elevator Company.

I, Wallace R. Lane, of Chicago, Illinois, an attorney regularly admitted to practice in the United States Circuit Court of Appeals for the Ninth Circuit, do hereby certify that in my opinion the foregoing petition for rehearing in the case of Otis Elevator Company, plaintiff, appellant and cross-appellee, versus Pacific Finance Corporation and Llewellyn Iron Works, defendants, appellees and cross-appellants, is well founded and is not presented for the purpose of creating a delay.

February 14, 1934.

WALLACE R. LANE.

I, William H. Hunt, of San Francisco, California, an attorney regularly admitted to practice in the United States Circuit Court of Appeals for the Ninth Circuit, do hereby certify that in my opinion the foregoing petition for rehearing in the case of Otis Elevator Company, plaintiff, appellant and cross-appellee, versus Pacific Finance Corporation and Llewellyn Iron Works, defendants, appellees and cross-appellants, is well founded and is not presented for the purpose of creating a delay.

February 21, 1934.

WILLIAM H. HUNT.

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT,

No. 6996

OTIS ELEVATOR COMPANY,
Plaintiff, Appellant and Cross-Appellee,

vs.

PACIFIC FINANCE CORPORATION AND LLEWELLYN IRON WORKS,
Defendants, Appellees and Cross-Appellants.

BRIEF IN SUPPORT OF PETITION FOR REHEARING OR FOR MODIFICATION OF OPINION.

The direction in the Court's opinion to dismiss the bill with one stroke, and without consideration of the merits of plaintiff's appeal, will destroy the Parker patent for a highly meritorious invention, and, if the opinion is adhered to, vitally affect the rights of inventors throughout the country.

By its petition for rehearing filed herewith, the Otis Elevator Company, plaintiff, seeks a reconsideration of and rehearing on the opinion of this Court, which for the first time holds:

(1) That claim 37 of the Parker patent in suit is "invalid because it claims only the function or result of an invention"; and

(2) That plaintiff unreasonably delayed filing a disclaimer thereof, thereby rendering that patent invalid.

Plaintiff submits that this finding and conclusion is predicated upon and involves the following misapprehensions:

1. As to the nature and character of the Parker invention.

2. That claim 37 is "invalid because it claims *only the function or result* of an invention," whereas under the decisions of the Supreme and other federal courts with respect to such claims, this claim is for a proper sub-combination of mechanical elements necessary for the operation of a highly meritorious invention, clearly disclosed and described in the patent.

3. That a *reading of the Master's finding alone* as to claim 37 (that it "does not comply with Section 4888 of the Revised Statutes and is, therefore, invalid") "should have" made it "sufficiently apparent to plaintiff" that the Master had concluded that the claim was invalid because "it covered only a function," and for this reason plaintiff should have disclaimed promptly after the filing of the Master's report.

4. What was argued before the Master with respect to claim 37 when he submitted his draft report for suggestions and exceptions, and that plaintiff in resistance to defendants' motion to dismiss (which motion was based solely on the ground that the Master found claim 37 of the Letters Patent in suit invalid under Section 4888, and that plaintiff should have disclaimed promptly thereafter, R. 622) was that claim 37 was sufficiently definite as a sub-combination to comply with Section 4888 of the Revised Statutes under the authorities applicable, and that the disclaimer filed was "not necessary" though "proper".

5. That defendants ever contended or even suggested that the Master was of the opinion that claim 37 was invalid as for only a function, whereas defendants in filing

their exceptions to the Master's report insisted that he erred in failing to find that claim 37 of the Parker reissue patent in suit was invalid because—

(a) anticipated by the patent to Strohm (Exception 61);

(b) for an aggregation (Exception 76);

(c) for a different invention than claimed in the original Letters Patent (Exception 111);

(d) of intervening rights by the defendants (Exception 115);

(e) of unreasonable delay in filing the application for reissue (Exception 122);

(f) this and other claims of the patent in suit covered merely the function or abstract effect of a machine (Exceptions 30, 31, 32, 33);

Defendants thereby indicated and recognized clearly that the Master's finding as to claim 37 was simply that it was not sufficiently definite to comply with Section 4888 of the Revised Statutes, and not that it was invalid because it covered merely the function or abstract effect of a machine, or because it was void for any other reason than because not sufficiently definite. Contrary to the Court's opinion, these exceptions were obviously not conditional and precautionary only.

6. A misinterpretation of the disclaimer statutes and the decisions of the Supreme and other federal courts pertinent thereto, and a misapplication of them to the facts of this case in holding that a patentee is required to disclaim before he becomes *aware with certainty* that he has claimed "more than that of which he was the first or original inventor or discoverer." The opinion substitutes a *rule of doubt* as to invalidity of a claim because it claims "more than that of which the patentee was the first and original inventor or discoverer," *in lieu of conviction* with respect thereto.

THE NATURE AND CHARACTER OF THE PARKER INVENTION.

CLAIM 37 IS FOR A PROPER SUB-COMBINATION OF MECHANICAL ELEMENTS NECESSARY FOR THE OPERATION OF A HIGHLY MERITORIOUS INVENTION, CLEARLY DISCLOSED AND DESCRIBED IN THE PATENT.

> "The invention of Parker is an important one. Coming from one not trained in the art, it has taught the art a new means of control that solves many old problems. * * * the invention, judged by the results, is a radical step forward." (Master's Report, R. 574)

The Parker patent refers to his Control for Electric Elevators as—

> "a novel system and means of control whereby the elevator car may be caused to automatically stop in proper alignment with predetermined floor levels by virtue of the actuation or setting of secondary control means, which may be provided within the car alone, or both within the car and at each floor level; said secondary control means being adapted to cooperate with the master control switch within the car, which master switch is subject to the manual control of the car operator." (Patent, p. 1, lines 19-30)

Parker having illustrated and described his complete control system and means by which it was operated, and by claims 3, 22, 29, 40, 41 and 65 covered and protected this, secured the allowance of claim 37 covering a novel sub-combination and arrangement of mechanical elements designed to be used in connection with his control system, whereby the elevator could be operated to accomplish his desired result, well expressed in the Master's report by the statement (R. 561)—

> "Nothing in the prior art shows a combination of control means by which an elevator can be started by an operator and thereafter be stopped automatically at several landings in response to control means in the car and at successive landings in response to control means actuated at any time before the car reaches the selected landing."

In sustaining claims 3, 22, 29, 40, 41 and 65 the Master held that these claims when read with the specifications amply protected this combination.

The Master, however, concluded that claim 37 did not include "the circuits and circuit closing means", shown in the patent, in any way, even in general terms, such as the means and mechanisms found in the other claims, and therefore concluded that this claim was invalid because it "does not comply with Section 4888 of the Revised Statutes."

Instead of this Court concluding, as the Master did, that claim 37 was invalid because it did not comply with Section 4888 of the Revised Statutes, its opinion holds that—

(a) "Even a casual reading of the claim and the Master's finding discloses that the invalidity was not merely because of indefiniteness *but because it covered only a function,"*

and cites: in support of this statement:—

Wyeth v. *Stone,* Fed. Cas. 18,107 (C. C. Mass.) (1840).

O'Reilly v. *Morse,* 15 How. 62 (1854).

Holland Fur. Co. v. *Perkins Glue Co.,* 277 U. S. 245, 247.

(b) "It is enough for present purposes to apply the principle that a claim, invalid because *it claims only the function or result* of an invention, unless properly disclaimed, invalidates the entire patent."

(c) "The purpose of the Master's finding as to claim 37 should have been sufficiently apparent to plaintiff upon a reading of that finding alone."

(d) "It fell because it specified substantially *nothing but a function."*

(e) Any doubts as to the purposes of the Master's finding should have been dispelled by the Master's ruling with respect to claim 29.

Let us first consider whether claim 37 "is invalid because it covered only a function"; whether "it fell be-

cause it specified substantially nothing but a function''; and whether ''the master's finding as to claim 37 should have been sufficiently apparent to plaintiff upon a reading of that finding alone'' to have required the filing of a ''necessary'' disclaimer promptly after the filing of the Master's report.

CLAIM 37 IS FOR A PROPER SUB-COMBINATION.

Claim 37 is for a proper sub-combination which need not include a complete operative mechanism.* It should be construed with what Parker sought to and did accomplish by the mechanisms of his patent and not as mere abstract language. It has a sub-combination of a number of mechanical elements with their functions stated, and when combined with the mechanism which the up, down and starting switches, shown in the Parker patent, initiate and control, provides a control for an electric elevator in which an attendant is stationed within the car, the starting of the car being entirely under the control of an attendant in the car, and that once started, the car will continue to run after the car switch handle is moved to ''off'' position, whereas the stopping of the car in either direction of its travel at any landing is achieved by automatically pushing buttons either in the car or at the landings.

Claim 37 calls for the following positively included elements in a—

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* *Thomson-Houston Electric Co.* v. *Black River Traction Co.*, 135 Fed. 759, 763, C. C. A. 2.
Wright v. *Herring-Curtiss*, 204 Fed. 597, affirmed C. C. A. 2, 211 Fed. 654, 655.
Deering v. *Winona Harvester Works*, 156 U. S. 286, 302.
Chambers-Bering-Quinlan v. *Faries*, 64 Fed. 587.
Hancock Inspirator Co. v. *Jenks*, 21 Fed. 911, Judge, later Justice, Brown.
Taylor v. *Sawyer Spindle Co.*, 75 Fed. 301, C. C. A. 3.
Roberts v. *H. P. Nail Co.*, 53 Fed. 916, Circuit Judge, later Chief Justice Taft.

"Control system for an elevator car—

(1) "a plurality of up switches within the car, one for each of a plurality of landings,

(2) "a plurality of up switches without the car, one at each of said landings,"

(It limits and defines the operation of these switches with the statement "both the up switches within the car and the up switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction")

(3) "a plurality of down switches within the car, one for each of said landings,"

(4) "a plurality of down switches without the car, one at each of said landings,"

(It limits and defines the operation of these switches with the statement, "both the down switches within the car and the down switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction.")

(5) "switching mechanism within the car,"

(It limits and defines the operation of this mechanism with the statement, "said switching mechanism being operable to cause the starting of the car from each and every landing in either direction.")

The emphasized portions of this claim show that it has to do with a Control System For An Elevator Car. This statement, as well as the rule of law that a patent claim is to be interpreted in the light of the specification, requires that the claim be read as though it included the elements described in the specification which are controlled by the combination of switches and switching mechanisms covered by this sub-combination claim.*

This is especially so where it appears (as the Master observed, R. 561) that

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* *Temco Co.* v. *Apco Co.* 275 U. S. 319, 329; *Eibel Process* v. *Minnesota, etc.* 261 U. S. 45; *Paper Bag Patent*, 210 U. S. 405, 417, and other cases cited *infra*, p. 26.

> "to obtain this result Parker has taken from the prior art the usual starting circuits"

and (R. 558)—

> "intended to use some system of slowing-down, stopping and leveling then in use that could be adapted to his control means,"

for, a patent specification is addressed to those skilled in the art, and it is enough that they would supply what a patent may have omitted.†

An examination of the five elements in claim 37 shows that the Court is in error in stating that the "only means described for accomplishing" the result sought by the invention "are a series of switches *i. e.,* push buttons."

The claim calls for the combination of the following mechanical elements—

> (1) a *plurality* of up switches *within* the car, *one for each* of a plurality of landings;
> (2) a *plurality* of up switches *without* the car, one *at* each of said landings;
> (3) a *plurality* of down switches *within* the car, one *for* each of said landings;
> (4) a *plurality* of down switches *without* the car, one *at* each of said landings;
> (5) *switching* mechanism *within* the car.

The first four elements show that they call for a combination of pluralities of up and down stopping switches, the *number* of such switches and *the exact location of each* "to cause the stopping of the car at the respective landings upon its approaching said landings in either the up or down direction."

Element numbered 5 is for a *switching mechanism within the car* operable to cause the starting of the car from

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† *Hildreth* v. *Mastoras*, 257 U. S. 27; *Minerals Separation* v. *Hyde*, 242 U. S. 261; *Sun Ray Gas Corp.* v. *Bellows-Claude Neon Co.*, (C. C. A. 6) 49 F. (2d) 886; *American Delinter* v. *American Machinery Co.*, (C. C. A. 5) 128 Fed. 709, 721; *Remington etc. Co.* v. *National etc. Co.* (D. Conn.) 6 F. (2d) 585, 619. As the court said in *Diamond Rubber Co.* v. *Consolidated Tire Co.*, 220 U. S. 428, 443: "In making a combination the inventor has the whole field of mechanics to draw from."

each and every landing in either direction. This element is likewise *limited to the location* of the switching mechanism used for starting the car from each and every landing in either direction. This would not cover starting the car from outside the car as is so frequently done in push button elevators.

The statement by the Court that (p. 11)

> "any system controlled by electric switches for accomplishing the same result would clearly have been an infringement"

is clearly erroneous, for numerous other combinations might readily be devised, for causing the stopping of the car at the respective landings upon its approaching said landings in either the up or down direction, than that utilizing the combinations of mechanical elements in this claim which provides for a *plurality* of up switches and down switches *within* the car, *one for each* of said landings, and a *plurality* of up switches and down switches *without* the car, *one at each* of said landings, and for a *switching mechanism within* the car operable to cause the starting of the car from each and every landing in either direction. Certainly an elevator construction which did not utilize this *plurality* of switches arranged *within* and *without* the car for stopping the car at the respective landings, and did not locate these switches as defined by the claim, and which did not use these in combination with the *switching mechanism within* the car—for starting the car—would not infringe this claim.

Plaintiff's position on this point is supported by the fact that defendants excepted to the Master's report on the ground that—

> "The Master erred in not finding that Claims 37, 40, 41 and 65 of the Parker Reissued Letter Patenet were deliberately and intentionally restricted to separate up

> and down car buttons and therefore could not be interpreted to include a system embodying only a single set of car buttons for both up and down direction."

This shows that defendants clearly did not consider that

> "any system controlled by electric switches for accomplishing the same result would clearly have been an infringement"

of claim 37 but, on the contrary

> "a system embodying only a single set of car buttons for both upon and down direction,"

for example, would not have been an infringement of that claim.

Further considering claim 37. It is for a *control system* for an elevator car. When reference is made to the specifications as to what this control system is, it is immediately apparent that the plurality of stopping switches and the switching mechanism of this sub-combination claim are a part of an operable combination which necessarily include the primary and secondary circuits and other means through which the car is started, run and stopped. Further, the expressions—

> "operable to cause the stopping of the car at the respective landings upon its approaching said landings in the up direction,"

used in connection with the up switches *within* and *without* the car;

> "operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction,"

used in connection with the down switches *within* and *without* the car; and

> "being operable to cause the starting of the car from each and every landing in either direction,"

used in connection with the switching mechanism located *within* the car, each clearly indicates, to anyone experienced in the elevator art, the operative circuits and means whereby the car is run and stopped, the starting and running being initiated by switches *within* the car, and the stopping

in either direction being initiated by *any one of a plurality* of switches *within* the car and *at the landings.*

The *sub-combination of elements* in the control system for elevator cars covered by claim 37 *are clearly operable in connection with the* "circuits and circuit closing means" *shown and described* in the drawings and specifications, and can be readily identified by reference thereto.

When the patentee has shown in his drawings, description and claims the manner of making, constructing and using it in such—

> "terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same,"

and has distinguished it from other inventions, he has satisfied the requirements of the statutes.

Having done so, and the public having available to it the complete drawings and specifications, and the means and apparatus shown therein, an inventor may properly cover sub-combinations in different claims, less than the whole invention, and even though this sub-combination is operable only in connection with other operable parts of the system, the claim is nevertheless valid, and the infringer is not entitled to use the sub-combination thus claimed.

As claim 37 is in the form of a number of sub-combination claims which have been sustained by the courts, and as the Patent Office had considered it sufficiently definitive of the invention, and as we have not had occasion to cover this point in this Court prior to its opinion, we hope this Court will give the matter careful consideration.

The statement of the Court that—

> "Claim 37 fully states the result to be accomplished by the invention, but the *only means* described for accomplishing it are series of switches, *i. e.,* push buttons"

entirely overlooks the "switching mechanism within the

car''. It fails to consider the limitations of the claim to the *plurality* of switches *within* and *without* the car for controlling the movement in either direction of travel and the *exact location of each.* It also fails to appreciate and apply this rule applicable to sub-combination claims that ''the circuits and circuit closing means'' shown in the drawings and specifications should be read into the sub-combination claim 37 to make it operative especially in view of the language of the claim itself defining the *plurality* of stopping switches as ''operable to cause the stopping of the car at the respective landings upon its approaching said landings'' in both the up and the down direction, and the language defining the ''switching mechanism within the car'' as ''operable to cause the starting of the car from each and every landing in either direction.''

The Court's reference to the Master's comments on claim 29, which he regarded as valid, as distinguishing that claim from claim 37 indicates a too literal interpretation of claim 37, for it predicates the validity of claim 29 (though deemed ''more descriptive of function than of the structure'') on the presence in it of some language (apparently not found in claim 37), which warrants—

> ''reading it in the light of the specifications which, in effect limits the claim to those elements of the structure, the function of which is described.''

What that language is, unless it be the word ''means'' or the word ''mechanism'' is beyond our comprehension, for the ''operable'' clauses of claim 37 can have no less significance in the construction of a claim than any other language of claim 29, when considered with the mechanical elements, that is, the switches and the switching mechanism, specified in it. These ''operable'' clauses certainly import all that they would import if revised to specify means to accomplish the result sought under the accepted requirements for the interpretation of claims. The use or non-use of a word such as ''means'' or ''mechanism'' in a claim ought not to be, and is not, a distinction between validity

and invalidity of a claim. *Qui haeret in litera, haeret in cortice.* (He who adheres to the letter adheres to the bark.)

The Master, as we have already shown, fully appreciated the meritorious character of the Parker invention. He appreciated that Parker specified the switches and switching mechanism, in claim 37, but that he regarded it as incomplete, because it failed to mention the circuits and circuit closing means which he deemed essential to a definite structure. His mistake lay in not recognizing the claim as one for a sub-combination. But he did not suggest that the claim was functional only.

To regard such a claim as functional only and to hold that "the ambit of the monopoly sought was not thereby made obscure, for any system controlled by electric switches for accomplishing the same result would clearly be an infringement" is obviously a departure from the established canons of decisions.

A SUB-COMBINATION CLAIM NEED NOT SPECIFY A COMPLETE OPERATIVE MACHINE.

Claim 37 amply complies with Section 4888 and is clearly *valid as a sub-combination* under the authorities.

In *Thomson-Houston Elec. Co.* v. *Black River Traction Co.,* (C. C. A. 2), 135 Fed. 759,* holding complainant entitled to a decree the court (Judge Wallace) said (p. 763):

* In this case the sub-combination claims considered by the court were:
"(1) In an electric railway, the combination of a car, an overhead conductor above the car, an upwardly extending and laterally swinging arm mounted on the roof of the car, and carrying a contact device at its free end, and making underneath contact with the conductor, substantially as described.
(2) In an electric railway, the combination of a car, an electric overhead conductor above the car and parallel with the line of travel, an upwardly extending trailing arm carrying a contact device at its free end, adapted to make underneath contact with the conductor, said arm being supported on the car on vertical and transverse axes, so as to permit said contact device to follow the position of the conductor, notwithstanding the great variations of height and of lateral displacement thereof, substantially as described."
The court sustained these claims although no tension means for holding the arm and contact device against the conductor was included, stating that such a device was necessary for the operation and was included by implication.

"If the combination now claimed was new and useful, Van Depoele was entitled to make a claim for it, as for a subcombination, notwithstanding additional means may have been necessary to place the specific parts in co-operative relations with the overhead conductor to effect a traveling contact. As the means for doing this are described in the patent, and as at the date of the patent tension devices of various kinds for maintaining the normal relations between the contact device and the overhead conductor were well known in the art, it was unnecessary to specify these means in the claims. * * *

"Many subcombinations, although new, are not useful, except to perform their appropriate functions in the machine of which they are a part. The description in the patent of the whole machine, and of the means or mode by which the subcombination is brought into co-operative relation with the other parts, usually indicates how the subcombination may effect a useful result. When this is so, the combination need not be operative alone, because (to use the language of Mr. Walker) 'utility is justly ascribed to things which have their use in co-operating with other things to perform a useful work.' In *Taylor* v. *Sawyer Spindle Co.*, 75 Fed. 301, 309, 22 C. C. A. 203, in considering the objection that the claims by themselves were void because not composing an operative mechanism, the court said:

> " 'The law upon this subject is too well settled to be open for discussion. A patentee is not required to claim the entire machine in each claim. Each of the claims at issue is for a complete combination of the spindle and its supporting tube and devices, and there was no necessity for expressing in terms the devices for revolving the spindle. Any appropriate means for operating it will be understood. The omission of the sleeve wheel does not affect the validity of either of the claims, which belong to that class where reference may be made to the specification to supply in a claim what is plain to any one skilled in the art.' "

In *Wright* v. *Herring-Curtiss*, 204 Fed. 597 (affirmed 211 Fed. 654, C. C. A. 2), at page 607, in disposing of a similar

contention there made and holding the claim* valid and infringed, the court said:

> "It is not essential to the validity of claim 3 that all parts of the machine, or all parts specified in other claims, which are necessary to its operativeness, should be included therein, and resort must be had to the specification for a disclosure of the parts necessary to insure the practicability of a patented device. In the Wright structure a new and novel result was attained simply by having the ailerons on the ends of the planes, without the supplemental feature of the vertical rudder. The warping feature is, in fact, the essential part of the machine, while the vertical rudder, insuring successful flying, is a valuable adjunct, without which lateral balance could not be restored. The employment, in a changed form, of the warping feature or its equivalent by another, even though better effects or results are obtained, does not avoid infringement. In such circumstances, as I read the authorities, the claim is valid as a subcombination. *Thomson-Houston Electric Co.* v. *Black River Traction Co.*, 135 Fed. 759, 68 C. C. A. 461; *Deering* v. *Winona Harvester Works*, 155 U. S. 286, 15 Sup. Ct. 1187, 39 L. Ed. 153; *Taylor et al.* v. *Sawyer Spindle Co.*, 75 Fed. 301, 22 C. C. A. 203. In *Railroad Co.* v. *Dubois*, 12 Wall. 47, 20 L. Ed. 265, the Supreme Court of the United States says:
>
> > " 'Undoubtedly a patentee may claim and obtain a patent for an entire combination, or process, and also for such parts of the combination or process as are new and useful, and he may claim and obtain a patent for both.'
>
> * * * * *

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* The claim to which the defenses of indefiniteness, incompleteness and inoperativeness were urged was—

"3. In a flying machine, a *normally flat aeroplane having lateral marginal portions* capable of movement to different positions above or below the normal plane of the body of the aeroplane, such movement being about an axis transverse to the line of flight, whereby said lateral marginal portions may be moved to different angles relatively to the normal plane of the body of the aeroplane, and also to different angles relatively to each other so as to present to the atmosphere different angles of incidence, and *means for simultaneously imparting such movement* to said lateral marginal portions, substantially as described."

Although this claim did not include the vertical rudder as an element, which element was necessary to its operativeness, and except for the two italicized mechanical elements, covered the operation and function of these elements, it was held to be a valid sub-combination claim.

> "To a similar effect, see *Canda et al.* v. *Michigan Malleable Iron Co.,* 124 Fed. 486, 61 C. C. A. 194, and *Clark Blade & Razor Co.* v. *Gillette Safety Razor Co.,* 194 Fed. 421, 114 C. C. A. 383."

This decision was affirmed by the Court of Appeals for the Second Circuit, 211 Fed. 654, the court saying:

> "We are in full accord with the reasoning by which he [Judge Hazel] reached the conclusions that the patent in suit is a valid one."

In *Deering* v. *Winona Harvester Works,* 155 U. S. 286, the court held the patent there sued on valid and infringed. The sub-combination claim under consideration by the court was—

> "20. The combination, in a grain-binder, of moving butt-adjusting mechanism and the board d^1, substantially as described."

In sustaining this claim the court read into it (the additional elements shown in the drawings and set forth in the specifications) the board d^2 pivoted to the butt-adjuster and arms d^2, d^3 and d^4, all of which were necessary to render the device operable. Speaking through Mr. Justice Brown, the court said at page 302, in disposing of the defendant's contention there that the claim did not comply with the Revised Statutes:

> "Admitting that additional elements are necessary to render the device operative, it does not necessarily follow that the omission of these elements invalidates the claim, or that the precise elements described * * * be read into the claim."

In order to determine what is meant by "a control system" for an elevator car and a *plurality* of switches *within* and *without* the car being *"operable"* to cause the stopping of the car "at the respective landings" it must be understood that the switches are connected through proper circuits to bring about the desired result. The use of the words "operable to cause" in claim 37 necessarily brings in these other operative features when considering the validity of the claim, under the decisions.

In the *Telephone cases,* 126 U. S. 1, the Court had before it for consideration the Bell patents No. 174,465 (p. 4) and No. 186,787 (p. 15). After distinguishing between the claims of the valid Bell patent No. 174,465 and claim 8 of Morse held invalid in the *O'Reilly* v. *Morse* case and demonstrating, we think, that claim 37 is not for a function only, the Court also considered the second Bell patent No. 186,787, which had to do with separate elements in an electric telephone and for a sub-combination of such elements. Three of the claims of this second Bell patent No. 186,787 were:

> 3. "The combination, with an electro-magnet, of a plate of iron or steel, or other material capable of inductive action, which can be thrown into vibration by the movement of surrounding air or by the attraction of a magnet
>
> 6. The combination, with an electric telephone such as described, of a sounding-box, substantially as herein shown and set forth.
>
> 7. In combination with an electric telephone, as herein described, the employment of a speaking or hearing tube for conveying sounds to or from the telephone, substantially as set forth.
>
> 8. In a system of electric telephony, the combination of a permanent magnet with a plate of iron or steel, or other material capable of inductive action, with coils upon the end or ends of said magnet nearest the plate, substantially as set forth."

With respect to these claims, the Court said (p. 572):—

> "The patent itself *is for the mechanical structure of an electric telephone* to be used to produce the electrical action on which the first patent rests. The third claim *is for the use in such instruments of a diaphragm, made of a plate of iron or steel, or other material capable of inductive action;* the fifth of a *permanent magnet constructed* as described *with a coil upon the end or ends nearest the plate;* the sixth of *a sounding box* as described; the seventh of a *speaking or hearing tube* as described *for conveying the sounds;* and the eighth of a *permanent magnet and plate combined. The claim is not for these several things in and of themselves,*

but for an electric telephone in the construction of which these things or any of them are used.''

These statements by the Supreme Court in the Telephone cases show that the Supreme Court has consistently held that (12 Wallace 265)

> ''a patentee may claim and obtain a patent for the entire combination or process and *also for such parts of the combination or process as are new and useful,* and he *may claim and obtain a patent for both,''*

and

> ''admitting that additional elements are necessary to render the device operative, it does not necessarily follow the omission of these elements invalidates the claim or that the precise elements described be read into that claim.'' (155 U. S. 286.)

In *Taylor* v. *Sawyer Spindle Co.,* 75 Fed. 301 (C. C. A. 3), the court in holding the claim there involved valid and infringed, said at p. 309:

> ''A patentee is not required to claim the entire machine in each claim. Each of the claims at issue is for a complete combination of the spindle and its supporting tube and devices, and there was no necessity for expressing in terms the devices for revolving the spindle. Any appropriate means for operating it will be understood. The omission of the sleeve whirl does not affect the validity of either one of the claims, which belong to that class where reference may be made to the specifications to supply in a claim what it is plain, to any one skilled in the art, is a necessary incident. *Reece Buttonhole Mach. Co.* v. *Globe Buttonhole Mach. Co.,* 10 C. C. A. 194, 61 Fed. 970; *Deering* v. *Harvester Works,* 155 U. S. 286, 15 Sup. Ct. 118. The decree of the circuit court is affirmed.''

The sub-combination claims involved were:—

> ''(3) The combination, substantially as hereinbefore described, of a spindle rail of a spinning machine, a spindle, and a supporting tube flexibly mounted with relation to the spindle rail, and containing steps and bolster bearings.
>
> (4) The combination, substantially as hereinbefore

described, of a spindle rail, a spindle, a supporting tube containing step and bolster bearings, flexible connections between said tube and the spindle rail, and adjusting devices for varying the degree of flexibility of the supporting tube and spindle therein.

(5) The combination of the spindle rail, the spindle, the supporting tube, loosely mounted with relation to the rail, and containing the step and bolster bearings for the spindle, the spring, and the nut for compressing it, substantially as described."

The above claims were held valid in spite of the fact that the inclusion of the sleeve whirl was necessary to make them operative. This element, shown and described, was held to be included, in the claim by implication, as a "necessary incident."

In *Roberts* v. *H. P. Nail Co.,* (N. D. Ohio), 53 Fed. 916, the late Chief Justice Taft (then circuit Judge), had under consideration the following sub-combination claim:—

"(1) In apparatus for coiling metal, a rotary receiving and coiling cone, having a channel which receives the metal at the smaller end or apex, and delivers it at its base, in combination with mechanism for rotating the cone, substantially as and for the purposes described."

He held this claim valid in spite of the fact that it did not include the entire mechanism, shown and described, necessary to its operation.

He said (p. 920):

"Counsel for respondent earnestly object to the validity of the first claim in the first Roberts patent on the ground that is for a single cone, with a channel, receiving the metal at its smaller end, and delivering it at its base, in combination with mechanism for rotating it; while the specifications show only a double cone,—that is, show an inner cone, with a channel made up of a single rib and an outer cone. It is said that it is not permissible for a patentee to make claim for a mechanism wider than anything which is shown to be operative in his specifications. The other claims of the patent are for a double cone, so that it is clear that the first claim is only for a single cone. Nevertheless I do not think that the point is well taken. *In*

a combination patent it is permissible for the patentee, after claiming his whole machine, to claim also the combination of fewer parts than the whole, provided the combination of the parts is new, even if, taken alone, the combination will not result in any known useful product. This is fully established in the decision of Judges McKennan and Nixon in the case of *Wells* v. *Jaques,* 5 O. G. 364. In that case the patent was for a combination of elements marking up a hat-body machine. The combination embodied a great many different parts, and the patentee made quite a number of claims, of which one only embodied the whole machine. It was objected that only the claim for the whole machine was valid, because the devices in combination in the other claims could not be employed alone for any useful purpose, and, only being useful when combined into a complete machine, the patent should have been for the unit, and not for the different combinations. To this objection Judge Nixon says:

> "'I cannot yield assent to that proposition. The separate claims of a patent must be construed in reference to the specifications; and, if the specifications point out the arrangements to be made, or the methods to be adopted, in connection with other instrumentalities which the inventor may not claim as new, in order to render his invention practically useful, the test to be applied is not whether the claim alone will produce a useful result, but whether it will do so supplemented by and in connection with such designated devices and instrumentalities.'

"In 2 Rob. Pat. Sec. 530, the principle is stated thus:

> "'Claims for each subordinate piece of mechanism may be joined with those for the principal machine, though not capable of use in any other known connection.'

"A little reflection shows that this cannot be otherwise, in view of the strict rule applying against the patentee of a combination, on the question of infringement. The omission by the respondent from the combination of complainant of a single element, whether that be old or new in itself, defeats the claim of in-

> fringement. That patentees may properly protect what is really new in the combination, they must therefore be given the opportunity to select out a part or parts which are new, less than the whole working machine, and by their claims warn the public against the use of them in any other combination to accomplish the same general result as that for which they were used by the patentee in his complete machine."

The right of an inventor to claim the entire combination and parts thereof as well, was also recognized in *Railroad Co.* v. *Dubois,* 12 Wall. 47, 60.

In *Chambers-Bering-Quinlan* v. *Faries,* 64 Fed. 587, (C. C. Ill.) Judge Allen, in holding the sub-combination claim there asserted valid and infringed, said at p. 588:

> "The defense relied on for the sixth claim is that it is for an inoperative combination. Anticipation is not asserted. This objection is not well taken, as the law is well settled that a valid combination claim may be taken for a less number of parts than are required for the complete operation of a machine. *Forbush* v. *Cook,* 2 Fish. Pat. Cas. 668, Fed. Cas. No. 4,931; *Inspirator Co.* v. *Jenks,* 21 Fed. 911; *Jenkins* v. *Gurney,* 23 Fed. 898; *McDonald* v. *Whitney,* 24 Fed. 600."

In *Hancock Inspirator Co.* v. *Jenks,* 21 Fed. 911, (C. C. Mich.), Judge (later Justice) Brown in disposing of defendants' contention there that the claim asserted did not comply with the Revised Statutes, said at p. 915:

> "Now, while it is entirely true that the combination stated in these claims would be obviously inoperative without such induction tube and chamber, still, by adding these elements, the construction would be equally inoperative without a boiler to furnish the steam and a well to supply the water, and a pipe leading to and from the boiler. But, in drawing the claims for a combination patent, we do not understand it to be necessary to include any elements except such as are essential to the peculiar combination, and are affected by the invention. Other portions of the machine are usually shown in the drawings to exhibit their relation to the patented combination, and they

> are wholly unnecessary to the validity of the claims. Indeed, it is manifest that the more elements introduced into the combination, the easier it would be to evade the patent; since, to sustain a suit for infringing a combination, it must be made to appear that the defendant used every element of such combination, however immaterial it may be. *Vance* v. *Campbell,* 1 Black, 429."

The claims of the invention were—

> "(1) The combination of plug, E, with orifice, K, and the tube, C, with the chamber, *e d,* when they are located relatively to each other, substantially as described;
>
> (2) the plug, E, with orifice, K, and tube, C, with the chamber, *e d,* and chamber, *d g,* as described;
>
> (3) the combination, with the above, of the tube, D, substantially as described."

It was contended that the combination claimed would not operate without the addition of an induction tube and a chamber to enclose the tube C. The court in holding these claims valid said (p. 916):

> "It is usual in the drawings to show the relations of the patented combinations to the other portions of the machinery, but the patentee is not obliged and ought not to claim anything more than such portions of the combinations as are essentially a part of his invention."

We submit that claim 37 is for a proper sub-combination of mechanical elements within the definition of the above cited cases and does not cover a function only.

A COMPARISON OF CLAIM 37 WITH NUMEROUS CLAIMS CONTAINING FUNCTIONAL STATEMENTS WHICH HAVE BEEN HELD VALID BY THE SUPREME AND OTHER COURTS OVER THE CONTENTION THAT THEY WERE FUNCTIONAL DEMONSTRATES THE VALIDITY OF THIS CLAIM.

We have already shown that claim 37 is for a proper sub-combination, and we desire to call attention of the Court to authorities, in addition to those discussed under the preceding heading, which should make it apparent that

this claim is not invalid because it covered only a function, and that its invalidity is not apparent from a reading of the Master's finding with respect thereto.

The only cases cited by the Court to support its position that—

> "Even a casual reading of the claim and the Master's finding discloses that the invalidity [of claim 37] was not merely because of indefiniteness but because it covered only a function"

are *Wyeth* v. *Stone, O'Reilly* v. *Morse,* and *Holland* v. *Perkins.*

The claims held invalid in each of these cases were purely for results and were not sub-combination claims of the type here involved. They were not limited to a combination of mechanical elements for performing certain mechanical operations, described and shown, for accomplishing certain results, but merely for the use of "any other *power* than human" in the Wyeth case, of "magnetism as a motive *power*" in the Morse case, irrespective of means or mechanism for utilizing such power. This is shown by the claims involved in these cases and by the opinions of the courts, and which in the *O'Reilly* v. *Morse* case, clearly distinguishes between claim 8 which was purely for results and the other claims, which included means for performing functions.

In *Wyeth* v. *Stone* the claim in question reads:

> "It is claimed as new to cut ice of a uniform size by means of an apparatus worked **by any other power than human.** The invention of that art as well as the particular method of application of the principle are claimed by the subscriber."

In the *O'Reilly* v. *Morse* case, the eighth claim, held invalid because covering results only, read:

> "**I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims;** the essence of my invention being the use of the motive power of the

> electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs or letters, at any distances, being a new application of that power of which I claim to be the first inventor or discoverer."

In both of these claims, the patentee attempted to cover any means by which the result sought could be secured, and thereby covered the results of any machine or apparatus utilized for the purpose, and by their language expressly attempted to cover any device which would accomplish the result regardless of whether it was shown in the drawings or description or the equivalent of this, and thereby claimed the result or function of any machine by which the stated results could be accomplished.

In order to bring the instant case into apposition to the claims held invalid in the cases of *Wyeth* v. *Stone* and *O'Reilly* v. *Morse,* Parker, contrary to the fact, must have claimed any electrical mechanism for starting or stopping an elevator car at any landing, whether described in his specification or not.

Claim 37 of the Parker patent is of an entirely different character from either of these claims.

In the first place, this claim is limited to a control system for an elevator car. It is likewise limited to up switches and down switches *located at definitely specified* places, *within* and *without* the car for causing the car to stop at predetermined landings, and to switching mechanism *within* the car to cause the starting of the car from each and every landing in either direction.

Under numerous decisions where such positive elements are included in the claim as here and their locations defined, the claim is not to be held invalid simply because it includes statements of the manner under which they operate, nor as we have pointed out, is such a sub-combination claim to be held invalid simply because it does not include

all of the parts shown in the description or drawings which are necessary for the operation of the combination.

It will be recalled that in *O'Reilly* v. *Morse* claim 8 of the Morse patent, which has been considered, was the only claim of the eight claims before the court held invalid. *The remaining claims were held to be valid.* A comparison of them with claim 37 of the Parker patent clearly substantiates plaintiff's contention that it is for a sub-combination of mechanical elements and not for a result or function only.

Morse's first claim (56 U. S. 85) read:

> "*First.* Having thus fully described my invention, I wish it to be understood that I do not claim the use of the galvanic current, or current of electricity, for the purpose of telegraphic communications, generally; but what I specially claim as my invention and improvement, is making use of the motive power of magnetism, when developed by the action of such current or currents, substantially as set forth in the foregoing description of the first principal part of my invention, as means of operating or giving motion to machinery, which may be used to imprint signals upon paper or other suitable material, or to produce sounds in any desired manner, for the purpose of telegraphic communication at any distances."

The only language of claim in it is the underscored part and that is limited only by the expression—

> "substantially as set forth in the foregoing description of the first principal part of my invention"

and that is true also of the other seven claims. Such a limitation though not expressed, is equally implied in the case of claim 37 of the Parker patent.

> "The phrase, 'substantially described or its equivalent,' when such phrase occurs in a claim, throws the investigator back to the description for means of construction, and *that phrase is always implied in claims wherein it is not expressed.*"

Walker on Patents, Sixth Edition, page 308, Section 227, and cases there cited.

Temco Co. v. *Apco Co.,* 275 U. S. 319, 329;

Eibel Process Co. v. *Minnesota & Ontario Paper Co.,* 261 U. S. 45;

Paper Bag Patent, 210 U. S. 405, 417;

Westinghouse v. *Boyden,* 170 U. S. 537, 557.

Railroad Co. v. *Dubois,* 12 Wall. 47, 62;

Bates v. *Coe,* 98 U. S. 31;

Diamond v. *S. E. Carr* (C. C. A. 9) 217 Fed. 400;

Foamite-Childs Corp. v. *Pyrene Mfg. Co.* (D. C. Del.) 21 F. (2d) 854, aff'd. (C. C. A. 3) 35 F. (2d) 287;

Gilchrist Co. v. *Kar-Lac Co.,* (C. C. A. 7) 29 F. (2d) 153;

I. T. S. Rubber Co. v. *Panther Rubber Mfg. Co.* (C. C. A. 1) 260 Fed. 934;

Davis etc. Co. v. *New Departure Mfg. Co.* (C. C. A. 6) 217 Fed. 775, 783.

The Telephone Cases.

Thirty-three years after the decision in *O'Reilly* v. *Morse,* the Bell patent came before the Supreme Court, in the *Telephone cases,* 126 U. S. 1. The defendant relied upon *O'Reilly* v. *Morse* in an attempt to defeat the claims of that patent on the ground that they were invalid because covering the general results sought only. In the Telephone cases the court plainly distinguishes between a claim of the type held invalid in *O'Reilly* v. *Morse* and that before it.

Among the Bell claims under consideration by the Supreme Court were:

Patent No. 174,465 (126 U. S. 13).

"1. A system of telegraphy in which the receiver is set in vibration by the employment of undulatory currents of electricity, substantially as set forth.

"5. The method of, and apparatus for, transmitting

vocal or other sounds telegraphically, as herein described, by causing electrical undulations, similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth."

Patent No. 186,787 (126 U. S. 16):

3. "The combination, with an electro-magnet, of a plate of iron or steel, *or other material capable of inductive action, which can be thrown into vibration by the movement of surrounding air or by the attraction of a magnet.*"

6. The combination, with an electric telephone such as described, *of a sounding box,* substantially as herein shown and set forth.

7. "In combination with an electric telephone, as herein described, the *employment of a speaking or hearing tube* for conveying sounds to or from the telephone, substantially as set forth."

8. "In a system of electric telephony, the combination of a *permanent magnet with a plate of iron or steel,* or *other material capable of inductive action,* with coils upon the end or ends of said magnet nearest the plate, substantially as set forth."

That these claims, as well as other claims before the court in the Telephone cases, are much more functional than claim 37 of the Parker patent and it is not invalid because it covers only a function, seems too obvious for discussion, particularly in view of the court's discussion of the *O'Reilly* v. *Morse* case, where it said in discussing claims 1 and 5 of patent No. 174,465 (p. 534):

"In *O'Reilly* v. *Morse,* 15 How. 62, it was decided that a claim in broad terms (p. 86) for the use of the motive power of the electric or galvanic current called 'electro-magnetism, however developed, for making or printing intelligible characters, letters, or signs, at any distances,' although 'a new application of that power' first made by Morse, was void, because (p. 120) it was a claim 'for a patent for an effect produced by the use of electro-magnetism, distinct from the process or machinery necessary to produce it;' but a claim (p. 85) for 'making use of the motive power of magnetism, when developed by the action of such current or currents, substantially as set forth in the foregoing description, * * * as means of operating or giving

motion to machinery, which may be used to imprint signals upon paper or other suitable material, or to produce sounds in any desired manner, for the purpose of telegraphic communications at any distances,' was sustained. The effect of that decision was, therefore, that the use of magnetism as a motive power, without regard to the particular process with which it was connected in the patent, could not be claimed, but that its use in that connection could."

"In the present case the claim is not for the use of a current of electricity in its natural state as it comes from the battery, but for putting a continuous current in a closed circuit into a certain specified condition suited to the transmission of vocal and other sounds, and using it in that condition for that purpose."

In referring to the claims of patent No. 186,787, the Court said (p. 572):—

"The patent itself is for the *mechanical structure of an electric telephone* to be used to produce the electrical action on which the first patent rests. The third claim *is for the use in such instruments of a diaphragm,* made of a plate of iron or steel, or *other materials* capable of inductive action; the fifth of *a permanent magnet* constructed as described with a coil upon the end or ends nearest the plate; the sixth *of a sounding box* as described; the seventh *of* a *speaking or hearing tube* as described for conveying the sounds; and the eighth of a permanent magnet and plate combined. *The claim is not for these several things in and of themselves, but for an electric telephone in the construction of which these things or any of them are used.*"

So in the instant case claim 37 of the Parker patent

"is not for the several things (*i. e.,* the switches and the switching mechanism) in and of themselves," but for "*a control system*"

in which these things (*i. e.,* the switches and switching mechanism) are used, as a sub-combination of mechanical elements forming a part of the complete invention of the Parker patent.

These statements of the Supreme Court point out a dis-

tinction which this Court failed to appreciate with respect to claim 37 where this Court says it is for a function only. This claim in fact covers a sub-combination of mechanical elements which together with their method of operation and use, in a control for an electric elevator, are clearly shown and described in the patent. That such a claim clearly is not a functional one under *O'Reilly* v. *Morse* is clearly shown by the opinion in that case with respect to claims other than 8, and by the opinion of the Supreme Court in the Telephone cases. Numerous other cases support this proposition.

The Following Cases Are Among Those in Which Defendants Have Made the Contention That the Claims Are Functional, and Despite This the Supreme and Other Courts Have Held Them Proper Claims and Not Invalid Because They Cover a Function Only.

In citing these cases we have in most instances copied the claims which were actually before the court for its consideration, so that this Court may, without spending undue time, compare the language of these claims, with claim 37 of the Parker patent, and appreciate that claims containing more functional statements concerning included elements, than claim 37 have been repeatedly held valid.

We ask that the Court compare claim 37 of Parker with its combination of elements and statements of the result to be accomplished by each, with claim 12 of the Eibel patent 845,224, sustained by the Supreme Court in *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.*, 261 U. S. 45. Among the six claims considered by the court was claim 12 which reads as follows:

> "12. *In a Fourdrinier machine, a downwardly-moving paper-making wire,* the declination and speed of which are so regulated that the velocity of the stock down the declining wire, caused by gravity, is so related to the velocity of the wire in the same direction, that waves and ripples on the stock are substantially

avoided and the fibers deposited with substantial uniformity on the wire, substantially as described."

In considering this claim and in holding it valid, the late Chief Justice Taft says (p. 71):

"This comes nearer to being a process claim but whether it is or not the defendant infringes it."

In this *Eibel Co.* v. *Paper Co.* case the *only element positively included was a downwardly-moving paper-making wire in a Fourdrinier machine.* All of the rest of the claim related to the functional regulation of the declination and speed of this paper-making wire, by which the waves and ripples on the stock are substantially avoided and the fibres deposited with substantial uniformity on the wire.

Comparing claim 12 of the Eibel patent, sustained by the Supreme Court, with claim 37 of the Parker patent, the mechanical elements appearing in each are:

EIBEL PATENT	PARKER PATENT
"In a Fourdrinier machine,	"A control system for an elevator car comprising,
(a) a downwardly-moving paper-making wire,	(a) a plurality of up switches within the car, one for each of a plurality of landings,
	(b) a plurality of up switches without the car, one for each of a plurality of landings,
	(c) a plurality of down switches within the car, one for each of said landings,
	(d) a plurality of down switches without the car, one at each of said landings,
	(e) switching mechanism within the car.
The functional statement contained in this claim following the two above recited mechanisms, reads: "The declination and speed of which are so regulated that the velocity of the stock down the declining wire, caused by gravity, is so related to the velocity of the wire in the same direction, that waves and ripples on the stock are substantially avoided and the fibers deposited with substantial uniformity on the wire, substantially as described."	The functional statements defining the operation of the above elements, the combination of a plurality of up and down switches *without* the car, one at each landing, and a plurality of up and down switches *within* the car, is that they *are "operable to cause the stopping of the car at the respective landings"* in either the up or down direction, and that the switching mechanism within the car is *"operable to cause the starting of the car from each and every landing in either direction."*

A comparison of these two claims shows that where in the Eibel patent there was simply one mechanical element qualified by a statement of operation. In the Parker patent there is the combination of five mechanical elements qualified by a statement of the operation of each. In both the Eibel and the Parker claims the statement of operation or function imports into the claim the additional elements necessary to make it a complete operative mechanism. In the Eibel case the Court had to read into this claim the means, in a Fourdrinier machine, for giving and regulating the speed of the downwardly moving paper making wire to make the device operative. Such a reading of "circuit and circuit closing means" into the Parker claim 37 must render it valid.

As the Supreme Court has held claim 12 of the Eibel patent valid over the insistence that it was functional only, there can be no question whatever that claim 37 of the Parker patent can withstand the same test and is not invalid because it covered only a function. It covers a subcombination of mechanism as well as a statement of the result which is accomplished by each and not a function only.

In *Hildreth* v. *Mastoras,* 257 U. S. 27, the Dickinson patent for a candy-pulling machine was involved. The late Chief Justice Taft writing the opinion of the court and sustaining Dickinson's claim, again approved and sustained claims containing just such statements as are in claim 37 of the Parker patent. The claim there involved reads (p. 32):

> "A candy-pulling machine comprising a plurality of oppositely-disposed candy hooks or supports, a candy-puller, and means *for producing a specified relative in-and-out motion of these parts for the purpose set forth.*"

The italicized portion of this claim certainly contains a statement of function, quite as much as claim 37 of Parker.

The Supreme Court held the machine patented as embodying (p. 34)—

> "the generic principle, and works, that is, if it actually and mechanically performs, though only in a crude way, the important function by which it makes the substantial change claimed for it in the art,"

and that it was, therefore, a pioneer. Citing *Telephone Cases,* 126 U. S. 1, 535; *Mergenthaler Linotype Co.* v. *Press Publishing Co.,* 57 Fed. 502, 505.

In *Paper Bag Patent Case,* 210 U. S. 405 (1908) the claims involved were the first, second and seventh, of which the first is representative and is as follows (p. 417):

> " 'In a paper bag machine, the combination of a rotating cylinder provided with one or more pairs of side forming fingers adapted to be moved toward or from each other, a forming plate also provided with side forming fingers adapted to be moved toward or from each other, means for operating said fingers at definite times during the formative action upon the bag tube, operating means for the forming plate adapted to cause the said plate to oscillate about its rear edge upon the surface of the cylinder during the rotary movement of said cylinder, the whole operating for the purpose of opening and forming the bottom of the bag tube, and means to move the bag tube with the cylinder."

These claims were held to be valid by the Circuit Court, which holding was affirmed by the Circuit Court of Appeals for the First Circuit and by the Supreme Court:

As stated by the Circuit Court (p. 417):

> " 'The pith of the invention is the combination of the rotary cylinder with means of operating the forming plate in connection therewith, limited, however, to means which cause the plate to oscillate about its rear edge.' "

The Supreme Court said (p. 421):

> "Counsel, however, contends that the Circuit Court, in its decision, virtually gave Liddell a patent for a function by holding that he was entitled to every means

to cause the forming plate to oscillate about its rear edge.

"*The distinction between a practically operative mechanism and its function is said to be difficult to define.* Robinson on Patents, sec. 144, *et seq.* It becomes *more difficult when a definition is attempted of a function of an element of a combination which are the means by which other elements are connected* and by which they coact and make complete and efficient the invention. But abstractions need not engage us. The claim is not for a function, but for mechanical means to bring into working relation the folding plate and the cylinder. This relation is the very essence of the invention, and marks the advance upon the prior art."

Certainly if this distinction between "a practically operative mechanism and its function" is "difficult to define" and "more difficult" where a functional statement relates to an element of a combination, this Court should not strike down a valid patent on a finding of what the Master held with respect to claim 37 where certainly the Master does not make it clear that this claim is for a function only, and where the decisions show it to be a proper sub-combination.

In *Cimiotti Unhairing Company* v. *American Fur Refining Company,* 198 U. S. 399, which the Supreme Court cites in the Paper Bag Case above referred to, the court approved and sustained the following claim, which contains statements showing the purposes to be served or the results accomplished, and shows that claims containing such statements are not invalid because functional.

"8. The combination of a fixed stretcher-bar, means *for intermittingly feeding the skin over the same,* a stationary card above the stretcher-bar, a rotary separating-brush below the same, and mechanism, substantially as described, *whereby the rotary brush is moved upward and forward into a position in front of the stretcher-bar,* substantially as set forth." (p. 409)

The court after approving this claim says (p. 410):

"In making his claim the inventor is at liberty to choose his own form of expression, and while the courts

may construe the same in view of the specifications and the state of the art, they may not add to or detract from the claim."

In *Keystone Manufacturing Company* v. *Adams,* 151 U. S. 139, the Supreme Court in sustaining the Adams patent of October 15, 1872, for an improved corn-sheller, again approves just such statements and claims as are here criticized.

The claim held valid by the court read (p. 142):

"The combination with a cornsheller of a series of wings, wheels, or projections, *so arranged on a shaft as to revolve in the same direction which the corn is running, and so placed relative to the throat as to force into the machine all misplaced or hesitating ears,* substantially as specified."

In *Expanded Metal Company* v. *Bradford,* 214 U. S. 366, the single claim of the Golding patent of October 9, 1894, for an expanded sheet metal, read as follows (p. 377):

"The herein described method of making open or reticulated metal work, which consists in simultaneously slitting and bending portions of a plate or sheet of metal *in such manner as to stretch or elongate the bars* connecting the slit portions and body of the sheet or plate, and then similarly slitting and bending in places alternate to the first-mentioned portions, thus producing the *finished expanded sheet metal of the same length as that of the original sheet or plate,* substantially as described."

The court in approving this claim says (p. 377):

"It is thus apparent that the method covered by the claim of the patent is accomplished by the two operations indicated and performed in the manner pointed out in the specifications."

(p. 379) "But the patent in suit, embraced in the claim allowed, shows more than a mere method of making open meshes by simultaneously cutting and stretching the metal. It shows a method by which the metal is first cut and stretched in the manner indicated to make the half diamond, and then a second operation,

coordinating with the first and completing the mesh by the manner in which it is performed in connection with the first. It is the result of the two operations combined which produces the new and useful result covered by the claim allowed in the Patent Office, and, which, when read in connection with the specifications, shows substantial improvement in the art of making expanded metal work."

The court further says (p. 381):

"The important thing in this patent is a method of procedure, not the particular means by which the method shall be practiced."

In *Morley Sewing Machine Co.* v. *Lancaster,* 129 U. S. 263 (1889), claims of this type were upheld by the Supreme Court reversing the decree of the Massachusetts Circuit Court. Claim 1 is representative and is as follows (p. 266):

"The combination, in a machine for sewing shank-buttons to fabrics, of button-feeding mechanism, *appliances for passing a thread through the eye of the buttons and locking the loop to the fabric,* and feeding mechanism, substantially as set forth."

The court said at page 286:

"Those claims are not for a result or effect, irrespective of the means by which the effect is accomplished. It is open to a subsequent inventor to accomplish the same result, if he can, by substantially different means. The effect of the rule before laid down is merely to require that, in determining whether the means employed in the Lancaster machine are substantially the same means as those employed in the Morley machine, the Morley patent is to receive a liberal construction, in view of the fact that he was a pioneer in the construction of an automatic button-sewing machine, and that his patent, especially in view of the character and terms of the four claims in question, is not to be limited to the particular devices or instrumentalities described by him, used in the three main elements of his machine, which, combined together, make it up. This is the principle applied by this court in *Consolidated Valve Co.* v. *Crosby Valve Co.,* 113 U. S. 157."

In *Von Schmidt* v. *Bowers,* 80 Fed. 121 (C. C. A. 9), a decision of this Court and a leading case in this Circuit, contention was made that complainant's claims were for functions and results and constituted merely aggregations. Firmly turning down this contention, this Court said, p. 147 *et seq.*:

> "By section 4888 of the Revised Statutes it is provided that every inventor, when making his application for a patent, shall file in the patent office a written description of his invention; and, if the application be for a machine, he is required to explain the principle thereof, and the best mode in which he has contemplated applying the principle, so as to distinguish it from other inventions. But he is not necessarily limited to the one mode shown. The pioneer inventor is entitled to a generic claim, under which will be included every species included within the genus. In addition to such generic claim, he may include in the same application specific claims for one or more of the species. *Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 Sup. Ct. 299; *Clough* v. *Barker,* 106 U. S. 166, 1 Sup. Ct. 188; *Clough* v. *Manufacturing Co.,* 106 U. S. 178, 1 Sup. Ct. 198; Rob. Pat. Sec. 535; *Hammerschlag* v. *Scamoni,* 7 Fed. 584; *Telephone Co.* v. *Spencer,* 8 Fed. 509; *Machine Co.* v. *Teague,* 15 Fed. 390; *Manufacturing Co.* v. *Buffalo,* 20 Fed. 126; *Brush Electric Co.* v. *Electric Imp. Co.,* 52 Fed. 965; *Ex Parte Nagle* (1870), Com. Dec. 137; *Ex Parte Howland,* 12 O. G. 889.
>
> "When the complainant claimed, in claim 10 of his patent 318,859, 'dredge boat having a self-contained pivot, forming a center of horizontal oscillation, with devices for swinging and working said boat upon said pivot, in combination with a suction pipe, exhausting apparatus, and rotary excavator,' he was not claiming a result, which, of course, he could not do. Nor did he thereby limit himself to any particular form of construction of the several devices therein mentioned. What he there claimed, and what he, as the first inventor of any combination that would accomplish the desired result had a right to claim, was the combination of a dredge boat itself containing a pivot forming a center of horizontal oscillation, with devices for swinging and for working the boat on the pivot, a ro-

tary excavator for the severing of the material in place, a suction pipe for its receipt and transmission to the exhausting apparatus, and the latter for the transportation and discharge of the spoils to the desired place of deposit. The record shows that the complainant was the first to combine those elements at all, and that the functions performed by his machine so constructed were entirely new. Hence he had the right to make the broad and generic claim embodied in claim 10, without any limitation as to the form of construction of the particular elements, and all subsequent machines which employ substantially the same means to accomplish the same result are infringements, notwithstanding the subsequent machine may contain improvements in separate mechanism which go to make up the machine. Authorities, *supra,* and *McCormick* v. *Talcott,* 20 How. 402; *Railway Co.* v. *Sayles,* 97 U. S. 554; *Clough* v. *Barker,* 106 U. S. 166, 1 Sup. Ct. 188; *Consolidated Safety-Valve Co.* v. *Crosby Steam Gauge & Valve Co.,* 113 U. S. 157, 5 Sup. Ct. 513. Of course, it remained open to any subsequent inventor to accomplish the same result by substantially different means.''

In *Bake-rite Mfg. Co.* v. *Tomlinson et al.,* 16 F. (2d) 556, C. C. A. 9 (1926), the following claim, previously held valid by the District Court, was upheld (p. 556):

'' 'In an apparatus of the character described (a) a receptacle for hot grease; (b) *mechanism for turning doughnuts or the like over after they have been in a separate receptacle for a predetermined length of time;* (c) *a mechanism for thereafter removing them after* they have been cooked for a further predetermined length of time.' ''

The court said (p. 557):

''It is also argued that Tomlinson's patent is invalid, because it is an attempt merely to patent a principle, function, or result. Appellants cite authorities holding that a patent covering generally any and every means or mechanism or method producing a given result is void as an attempt to patent a principle. That rule, undoubtedly generally correct, is inapplicable here, for the reason that Tomlinson claims a combina-

tion of means which operate together to perform a certain function. *Morely Machine Co.* v. *Lancaster,* 129 U. S. 263, 9 S. Ct. 299, 32 L. Ed. 715; *Denning Wire & Fence Co.* v. *American Steel & Wire Co.* (C. C. A.) 169 F. 793.' "

These rules of patent construction have been reflected in comparatively recent decisions of the Supreme Court.

In *Temco Co.* v. *Apco Co.,* 275 U. S. 319, reversing the Circuit Court of Appeals and the District Court, and holding a patent for a spring device valid and infringed, in an opinion by Chief Justice Taft, the court said (p. 329):

"The district court and the Circuit Court of Appeals in this case held that claim No. 3 of the patent in suit was void because inoperative and having no description upon which it could be properly used as a claim. The claim is as follows:

'In automobile construction, wherein coiled springs are used auxiliary to leaf springs for absorbing shock to the road wheels, the combination of upright stanchions with the axle of the ground wheels, said stanchions being attached to the outer ends of said axle, leaf springs extending above the axle and between the stanchions, and supporting the chassis frame, the said stanchions being adapted to limit the end motion of the leaf springs and thereby prevent side sway of the chassis frame, hangers for the outer ends of said leaf springs, said hangers having a vertical movement and being guided therein by said stanchions, and coiled springs interposed between said leaf spring hangers and said axle of the ground wheels.'

"The district court in its opinion said: 'For want of any statement as to how the leaf spring and helical spring are to be connected to and guided by the stanchions, I think Claim 3 is incomplete and void.'

"The Circuit Court of Appeals of the Fifth Circuit said of the claim: 'Appellee (the petitioner) has filed a cross-appeal and insists that the claim which the district court disallowed is valid. That claim is about as vague as it could be made. As pointed out by the district judge it fails to specify the means by which the

leaf and helical springs can be connected to and guided by the stanchion. To sustain a claim as general as this is would be to allow a patent for a "result and not for the mechanism producing it".'

"Reading the claim with the specifications and the drawings, which are both clear (*Howe Machine Co.* v. *National Needle Co.*, 134 U. S. 388, 394) its addition to the combination of coiled springs interposed between the leaf spring hangers having vertical movement and guided by stanchions, comprehends the link as shown in the drawings, or any suitable connection between each leaf spring and its hanger and casing surrounding the coiled spring which is interposed between the leaf spring and the axle and ground wheel. It does not seem to us that the claim is vague; nor do we find nullifying incompleteness in it."

CLAIM 37 IS OF THE TYPE COMMONLY USED IN THE ELECTRICAL AND ELEVATOR ARTS AND HAVE BEEN REPEATEDLY SUSTAINED BY THE COURTS.

Claims of the same type as claim 37 have almost universally been used in connection with securing patents covering electrical inventions, and have been repeatedly sustained by the courts in this art as well as in the elevator art. To illustrate:

In *Plunger Elevator Co.* v. *Standard Plunger Elevator Co.*, 165 Fed. 906, the Circuit Court of Appeals for the First Circuit, speaking through Circuit Judge Lowell, reversed the Circuit Court and sustained the Cole patent No. 700,740 holding the claims valid and infringed. The following claims fairly illustrate the scope of the invention—

"(2) The combination with the main three-way valve, of means for opening and closing said valve in either direction, and automatic means for regulating the opening and closing movements at different rates of speed.

"(3) The combination with the main valve for controlling the passage of fluid under pressure, of means for opening and closing said valve, and automatically-

operated quick-opening, slow-closing means connected with said main valve, whereby the speed of opening and the speed of closing the main valve are regulated within independent limits, substantially as described.

"(4) In a hydraulic elevator the combination with a main valve, of a valve-motor, a pilot-valve mechanism, and an opening and closing regulating means operated by movement of the main valve, whereby a quick opening and a slow closing of the main valve are effected.

"(5) The combination with the main valve for controlling the passage of fluid under pressure, of motor means for opening and closing said main valve, secondary valve mechanism for controlling the motor means, and hydraulic opening and closing regulating means for automatically regulating the velocity at which the main valve may be opened and the velocity at which the main valve may be closed at independent rates, substantially as described."

In *Otis Elevator Co.* v. *Kaestner & Hecht Co.*, 234 Fed. 926 (D. C. Ill.), District Judge Sanborn held claims 18, 19, 20 and 21 of the Herdman patent No. 548,830 valid and infringed. These claims as set forth in the opinion are as follows (p. 934):

"Claims 18. The combination with an electric motor and a source of current supply—

(1) Of a device controlled by the motor,

(2) And, adapted after a predetermined number of revolutions of the motor.

(3) To change the relation to each other of the strength of the current passing to the armature and field independent of the operating mechanism.

"Claim 19:

(1) Same.

(2) Same.

(3) To increase the strength of current passing to the field of the motor independent of the operating mechanism.

"Claims 20 and 21 are substantially like 18."

In this case also claims 9 and 10 of the Sprague patent No. 815,756 were held valid and infringed. Only claim 10 is set out in the opinion which states (p. 937)—

"Claim 10 covers the whole ground by counting on these elements:

"'10. The combination of a motor, controller mechanism therefor, an operator's switch for operating the controller mechanism, a cut-out switch arranged to be opened when the controller mechanism is moved from initial position, a bridging contact for closing the circuit around the cut-out switch, the said contract being arranged to be opened automatically when the circuit is opened, thus taking control from the operator's switch, and means for restoring the controller to initial position and closing the cut-out switch independently of the operator's switch, thus restoring control to the operator's switch, substantially as described.' "

In *Brush Electric Co.* v. *Fort Wayne Electric Light Co.*, 40 Fed. 826 (1889), the Circuit Court for the District of Indiana, held the claims of the Brush patent No. 219,208 valid and infringed. The claims which defendant urged were invalid on the ground of being functional are as follows:

"(1) In an electric lamp, two or more pairs or sets of carbons, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, substantially as and for the purpose specified.

"(2) In an electric lamp, two or more pairs or sets of carbons, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, and establish the electric light between the members of but one pair, to-wit, the pair last separated, while the members of the remaining pair or pairs are maintained in a separated relation, substantially as shown.

"(3) In an electric lamp having more than one pair or set of carbons, the combination, with said carbon set or pairs, of mechanism constructed to impart to them independent and dissimultaneous separating and

feeding movements, whereby the electric light will be established between the members of but one of said pairs or sets at a time, while the members of the remaining pair or pairs, are maintained in a separate relation, substantially as shown.

"(4) In a single electric lamp, two or more pairs or sets of carbons, all placed in circuit, so that when their members are in contact the current may pass freely though all said pairs alike, in combination with mechanism constructed to separate said pairs dissimultaneously or successively, substantially as and for the purpose shown."

In disposing of this contention of defendants the court said (p. 833):

"It is admitted by the defendants' counsel that the patent in suit describes a new and useful mechanism for which Brush was entitled to a patent; but it is urged that the first, second, third, and fourth claims are for functions or results without regard to mechanism, and are therefore void. The claims are not open to this objection. The specification describes mechanism whereby a result may be accomplished, and the claims are not for mere functions; nor, fairly construed, can it be said that they cover other than equivalent means employed to perform the same functions. The first claim, construed in connection with the means described in the specification, is for an electric arc lamp in which two or more pairs of carbons are used; the adjustable carbons of each pair being independently regulated by one and the same mechanism, and in which there is a dissimultaneous or successive separation of the pairs, so effected as to secure the continuous burning of one pair prior to the establishment of the arc between the other pair. Thus construed, the invention claimed is limited to the particular means described in the specification, and their substantial equivalents. The second, third, and fourth claims also refer to the particular mechanisms described in the specification for the accomplishment of results covered by those claims. They are for combinations of specific mechanisms, and their substantial equivalents, and not for results irrespective of means for their accomplishment."

The same view is taken in *Brush Electric Co. et al.* v. *Electric Imp. Co.*, 52 Fed. 965 (1892), the Circuit Court for the Northern District of California quoting the above language from *Brush Electric Co.* v. *Fort Wayne Co., supra.*

These claims were also upheld by the Circuit Court for the Northern District of Ohio in *Brush Electric Co.* v. *Western Electric Light & Power Co.*, 43 Fed. 533 (1890); in *Brush Electric Co.* v. *Electric Imp. Co.*, by the Circuit Court for the Northern District of California, 45 Fed. 241 (1891); in *Brush Electric Co.* v. *Fort Wayne Electric Co.*, by the Circuit Court for the District of Indiana, 44 Fed. 284 (1890), and in *Brush Electric Co.* v. *New American Electrical Arc Light Co.*, by the Circuit Court for the Southern District of New York, 46 Fed. 79 (1891).

In most of the foregoing cases the attorneys for the defendant have insisted that under the *Wyeth* v. *Stone* and *O'Reilly* v. *Morse* cases, the claims before the Master were invalid as for results only or functional, and the Supreme and other courts had occasion to distinguish from these cases, and in doing so held that the respective claims before them were for proper combinations, and their holdings show conclusively that the rules of law applied would make it impossible for this Court to adhere to its decision holding that claim 37 of the Parker patent was invalid because it covered only a function.

One having a knowledge of these decisions and carefully reading claim 37, either taken alone or in connection with the Master's report, could not fairly reach the conclusion that claim 37 claimed only the function or result of an invention, or have assumed it to be invalid on that account, and we think no one prior to the decision of this Court ever suspicioned that interpretation could be placed upon the report of the Master when taken in connection with claim 37.

We submit that under these authorities plaintiff had no reason to anticipate any holding by this or any other court that the claim was invalid because it claimed only the function or result of an invention, or that it was "*necessary*" to file any disclaimer because of anything said in the Master's report or because of any anticipation that this Court would so hold.

THE OPINION OF THE COURT INDICATES A MISUNDERSTANDING OF THE HISTORY OF THE CASE AND THE FACTS IN RESPECT TO THE FILING OF THE DISCLAIMER OF CLAIM 37 AND OTHER CLAIMS WHICH PLAINTIFF FILED MAY 1, 1931.

The Court in its opinion says:—

> "Defendants' motion was based on the ground that plaintiff's disclaimer was not seasonably filed according to the provisions of the disclaimer statutes. * * *
>
> Plaintiff asserted an answer thereto, that the disclaimer was timely and sufficient thereunder. It *now urges in addition* that no disclaimer was necessary, because the invalidity of claim 37 was not due to the patentee having claimed 'more than that of which he was the original or first inventor or discoverer,' or, in slightly different phraseology, 'in his specification, claimed to be the original and first discoverer of any material or substantial part of the thing patented, of which he was not the original and first inventor or discoverer,' but, as the Master found, because the claim failed to describe the invention sufficiently to comply with R. S. Sec. 4888, 38 Stat. 958 (1915), 35 U. S. C. Sec. 33 * * *"
>
> "The purpose of the Master's finding as to claim 37 should have been sufficiently apparent to plaintiff upon a reading of that finding alone. Any doubts however should have been dispelled by considering that finding in connection with the finding that claim 29 while 'more descriptive of function than of the structure' was saved only by reading it in the light of the specifications, which in effect limits the claim to those elements of the structure, the function of which is described. Such reading could not however aid to save claim 37. Consequently the claim had to stand or fall

on its own wording. It fell because it specified substantially nothing but a function. Invalidity of the claim was not contested by plaintiff after the Master's report. We conclude therefore, not only that the claim 37 was found invalid on grounds which would require seasonable disclaimer, but also that the Master's report, uncontested in this respect, gave plaintiff sufficient notice of the situation."

The facts are that—

December 18, 1929 a "preliminary draft" of the Master's report was submitted to counsel to permit the Master to consider such exceptions and suggestions for amendment as might be offered. (R. 590.) In this report the Master indicated that he proposed recommending that Parker be held to have made a highly meritorious invention, and that claims 3, 22, 29, 40 and 65 asserted were valid and infringed, that claim 41 was valid but not infringed and that claim 37 was invalid because it was not sufficiently definite to comply with Section 4888 of the Revised Statutes.

January 13, 1930 plaintiff responded, filing with the Master certain suggestions in writing (See *Lane Affidavit* and Exhibit A appended thereto filed herewith), and insisted that claim 37 was a proper sub-combination claim, and that its language—

> "plainly imports into it *the circuits and circuit closing means* through which 'the starting of the car from each and every landing in either direction,' is caused, and 'the stopping of the car at the respective landings upon its approaching said landings' in the up and down direction, is caused."

Plaintiff also then insisted that—

> "It is not necessary that the mechanism covered by a sub-combination claim is operable *per se* for such claim always draws to itself the structure and means, or its equivalent, shown in the drawings and pointed out in the specifications."

In respect to these suggestions the Master in his final report filed February 25, 1930, says (R. 590):

> "*The plaintiff excepted to the findings on Claims 37* and 41. No reason has been found to change these findings, although the report has been amended in an effort to further clarify the masters findings on Claim 41.
>
> "The defendants' exceptions, other than those that are formal in character, are directed to the omission of specific findings on certain prior art structures. These omissions were intentional. Those references upon which no findings are made are not considered to be pertinent. If this view is erroneous, it would not assist in correcting the error to include in the report findings made upon what the master considers irrelevant matter. Should there be error, the findings can be made after the error is pointed out and corrected."

The Master concluded among other things:

> "5. That Claim 37 is invalid under Section 4888 of the Revised Statutes".

Thus, except as indicated, the Master adhered to the findings of his draft report. Plaintiff filed no further exceptions to this report.

Defendants excepted to the report on numerous grounds raising the question of the validity of claim 37 for almost every other reason available to it than that suggested by the Master. By these it insisted that he erred in failing to find that claim 37 was invalid because—

> (a) anticipated by the patent to Strohn (Exception 61);
>
> (b) for an aggregation (Exception 76);
>
> (c) for a different invention than claimed in the original Letters Patent (Exception 111);
>
> (d) of intervening rights by defendant (Exception 115);
>
> (e) of unreasonable delay in filing application for reissue (Exception 122); and
>
> (f) this and other claims of the patent in suit cover merely the function or abstract effect of a machine (Exceptions 30, 31, 32, 33).

Thus defendants clearly indicated that the Master had not held claim 37 invalid because it covered only a function, or

for lack of invention, or because it covered more than that of which the patentee was the original or first inventor or discoverer, but that he regarded it as invalid simply because it was not sufficiently definite to comply with Section 4888 of the Revised Statutes. They also plainly showed without any reservation or condition in respect to the filing of exceptions by plaintiff (contrary to the suggestion of the Court), that defendants' desired a determination that claim 37 was invalid on other more substantial grounds, not merely, a desire to guard against a last minute exception by plaintiff. Furthermore, they recognized that the question of validity of claim 37 under Section 4888 is one of law determinable by the trial Court without exception taken by plaintiff.

Defendants also excepted to the report of the Master on the ground that he erred in not finding that claim 37, and other claims, were

> "deliberately and intentionally restricted to separate up and down car buttons and therefore could not be interpreted to include a system embodying only a single set of car buttons for both up and down direction,"

thus showing that defendants regarded that claim as so limited that it did not cover a system embodying a *single set of car buttons* for both up and down direction.

In other words this is an admission of what we elsewhere contend, *i. e.,* that this claim would not be infringed by

> "*any system* controlled by electric switches for accomplishing the same result,"

as this Court seems to think.

October 15, 1930 the hearing on defendants' exceptions to the Master's report was heard by Judge James and the case taken under advisement.

February 2, 1931 the Supreme Court rendered its decision in *Ensten* v. *Simon Ascher & Co.,* 282 U. S. 445.

May 1, 1931 (six and one-half months after the hearing before Judge James, and five months before he rendered

his opinion), plaintiff filed a disclaimer of Claim 37 and other claims, stating:

> "*The sole reason for this disclaimer is that a Special Master,* in the case of Otis Elevator Company *vs.* Pacific Finance Corporation and Llewellyn Iron Work, now pending in and undecided by the District Court of the United States, for the Southern District of California, Central Division, *has advised,* for reasons likewise applicable to claims 34, 35 and 36, *in a report filed by him, that said claim* 37 *is invalid as not complying with Section* 4888 *of the Revised Statutes, and as he 'considered that the other claims amply protect the invention.'* "

June 17, 1931 defendants filed a motion to dismiss the bill of complaint on the ground that the entire patent was invalid because of unreasonable delay in filing a disclaimer of Claim 37 (R. 622), and five days later filed a brief in support of that motion. In this brief defendants urged in support of their motion, only that the Master had found claim 37 of the Letters Patent in suit invalid, that plaintiff had filed no exception to this finding but had delayed and neglected to file a disclaimer as required by Sections 4917 and 4922 of the Revised Statutes of the United States until May 1, 1931, and that such delay and neglect were unreasonable. They did not urge that the Master had concluded that claim 37 was

> "invalid because it claims only the function or result of an invention."

July 20, 1931 plaintiff filed a brief in resistance to defendants' motion to dismiss the bill of complaint (See Exhibit B attached to Lane Affidavit filed herewith) and with it an affidavit of Walter E. F. Bradley, sworn to on July 14, 1931, stating—

> "This disclaimer was filed by the plaintiff not because the patentee claimed more than that of which he was the first or original inventor, and not because plaintiff did not believe claim 37 set forth a proper sub-combination. Plaintiff elected as a matter of policy not to retain claim 37 as the invention therein referred to was amply covered by other claims as found by the master in this case, and because the master was

of the opinion it was indefinite and did not comply with Section 4888 R. S."

In its brief before the trial Court in resistance to defendant's motion to dismiss plaintiff presented the following grounds of opposition to the motion:—

(1) That no disclaimer was necessary though proper;

(2) That claim 37 was proper and sufficiently definite as a sub-combination claim to comply with Section 4888 of the Revised Statutes under the authorities applicable;

(3) That notwithstanding this, before any finding of the trial court or the entry of any decree by the trial court, plaintiff had filed a proper if unnecessary disclaimer as to claim 37;

(4) That "The sole reason for filing this disclaimer" was that the Master's report had concluded that "claim 37 is invalid as not complying with Section 4888 of the Revised Statutes," and as he considered that "the other claims amply protect the invention";

(5) That the Master recommended that the claim be held invalid:—

(a) Not because Parker claimed "more than that of which he was the original or first inventor or discoverer";

(b) Not because he claimed "materially more than that of which he was the first to invent";

(c) Not because he claimed to be the first, original inventor or discoverer of a substantial part of a thing of which he was not the original or first discoverer, for the Master definitely found, as shown on the face of his report, "that the other claims amply protect the invention";

but because the Master ruled, as a matter of law, that claim 37 did not comply with Section 4888 of the Revised Statutes as to form, for it did not include "such definition of structure that the elements of structure claimed can be identified."

Thus throughout the proceedings the validity and scope of claim 37 of the Parker patent were constantly in question, at large and before the trial Court for determination.

October 2, 1931 the trial Court filed its opinion setting forth its decision of the cause on the merits and denying

defendants' motion to dismiss the bill of complaint, stating some of the facts, as above related, in respect to the decision in the Ensten case, the filing of the disclaimer and the ground of defendants' motion, and adding (R. 632-3)—

> "The argument on the motion to dismiss presented the contention that the plaintiff having failed to except to the finding of invalidity made by the master as to claim 37, and having allowed the time intervening from February 25, 1930, the date of the filing of the master's report, and May 1, 1931, to elapse without disclaiming, the case came within the effect of the decision above cited. That motion was submitted and is now to be first disposed of. It would seem that where no final decree is made adjudging any claim of a patent to be invalid, the patentee is not required to disclaim. It is true that no exception was taken to the report of the master finding claim 37 invalid, but the entire report was, at the time of the making of the motion, still before the court subject to being passed upon, changed or modified. There was no decree interlocutory asked for to confirm the report as to the finding of invalidity for lack of exception taken, hence in my view the matter remained at large and the commencement of the reasonable time within which the plaintiff might disclaim would be the entry of such decree. I am, therefore, of the opinion that the motion to dismiss should be denied, and it is so ordered."

The trial Court did not decide the question of whether or not claim 37 was of such character as to require that it be disclaimed, although defendants' motion also presented that question. Had the trial Court *not* found that the "entire report" of the Master, at the time plaintiff disclaimed, was "still before the Court subject to being passed upon, changed or modified," he would have been required (under defendants' motion to dismiss) to pass upon the question as to what the Master concluded and whether a disclaimer was necessary or not. Under such circumstances plaintiff might have had its day in Court on the question, presented for the first time by this Court's opinion, of whether the claim 37 was functional only and required a disclaimer or an appeal.

Plaintiff insists that in view of the foregoing recital of the facts in respect to the recommendation of the Master as to claim 37, the filing of the disclaimer, defendants' motion to dismiss the bill of complaint and the trial Court's decision denying that motion, it is clear that:—

1. The Master recommended that claim 37 be held invalid as not complying with Section 4888 of the Revised Statutes, for indefiniteness, and not because it claimed any material or substantial part of the thing patented of which the patentee was not the original or first inventor or discoverer.

2. That at no stage of this case prior to the filing of the opinion of this Court, January 23, 1934, did any party, court or other tribunal contend or express the opinion that the Master's report recommended that claim 37 be held to be invalid because it claimed "only the function or result of an invention."

3. That plaintiff has consistently throughout this litigation contended—

(a) That claim 37 was a valid claim for a subcombination of elements of the invention of the Parker patent;

(b) That the Master recommended that it be held to be invalid only as not complying with Section 4888 of the Revised Statutes;

(c) That the Master's report in respect to claim 37, as well as in all other respects, remained at large until confirmed and effectuated by a decree of the Court appointing him, which should have become final; and

(d) That the disclaimer filed by plaintiff on May 1, 1931 was a proper but unnecessary disclaimer.

THIS COURT'S INTERPRETATION OF THE MASTER'S CONCLUSION (R. 590) "THAT CLAIM 37 IS INVALID UNDER SECTION 4888 OF THE REVISED STATUTES" IS MANIFESTLY DIFFERENT FROM THE PLAIN MEANING OF THE WORDS USED BY THE MASTER IN BOTH SUBSTANCE AND EFFECT.

Section 4888 requires that—

> "before any inventor or discoverer shall receive a patent for his invention or discovery he shall make application therefor * * * and he shall *particularly point out and distinctly* claim the part, improvement or combination which he claims as his invention or discovery. * * *"

In concluding "that claim 37 is invalid under Section 4888 of the Revised Statutes" the Master unquestionably was of the opinion that the patentee had failed in this instance to

> "*particularly point out and distinctly* claim the part, improvement or combination which he claims as his invention or discovery."

This is in keeping with the statements made by the Master in his discussion of claim 37. After pointing out that—

> "this claim mentions the up and down switches both in the car and at the landings, ascribing to them the function of automatically stopping the car"

and observing that they were—

> "only a small part of the combination of means which effectuate automatic stopping"

and further observing that certain circuits and circuit closing means which, he thought,—

> "must operate to produce the result described in this claim" "are not included in the claim in any way even in general terms, such as the 'means' or 'mechanism' found in the other claims" the Master expressed the "opinion that"
>
> "this description of the result without reference to structure cannot be read on the structure with sufficient accuracy to define the claim."

By way of explanation, he added:

> "While the inclusion in a claim of language describing function or result does not render the claim in-

> valid, nevertheless, the claim must include such definition of structure that the elements of the structure claimed can be identified."

There can be no doubt that the Master recognized that the claim specified certain means, namely, what he termed

> "the up and down switches both in the car and at the landings"

for stopping the car. He also recognized the presence in the claim of langauge—

> "ascribing to them [those switches] the function of automatically stopping the car."

It can only be assumed that if he had mentioned the

> "switching mechanism within the car"

he would likewise have ascribed to it

> "the function of * * * *starting* the car."

It seems clear that what the Master meant by the expression

> "this description of the result without reference to structure,"

which he was unable to read—

> "on the structure with sufficient accuracy to define the claim"

were the clause

> "both the up switches within the car and the up switches without the car *being operable to cause the stopping* of the car at the respective landings upon its approaching said landings in the up direction,"

and the clause—

> "both the down switches within the car and the down switches without the car being operable to cause the stopping of the car at the respective landings upon its approaching said landings in the down direction,"

respectively, limiting and defining those switches and, although the Master failed to realize it, importing into the claim,

> "the circuits and circuit closing means"

described in the specification, under accepted rules of patent construction.

The phrase "operable to cause," if it is to be given any real effect—and it would not have been inserted in the claim if it were not intended to have significance—connotes such means and mechanism described in the specification as might be essential to the accomplishment of the result stated,* namely,

> "the stopping of the car at the respective landings upon its approaching said landings."

In recognizing that

> "While the inclusion in a claim of language describing function or result does not render the claim invalid"

the Master, plainly indicated that, unlike the Court, he did not regard those clauses as extending the scope of claim 37 to cover

> "any system controlled by electric switches for accomplishing the same result"

or as rendering the claim one for a function only, but—overlooking their real significance—that he considered those clauses to be insufficient to cover what he deemed requisite additional elements or means, namely,

> "the circuits and circuit closing means",

to produce the result described in this claim.

This interpretation of the Master's report in respect to claim 37 is wholly consistent with the language and purpose of Section 4888 of the Revised Statutes. It means that, in the opinion of the Master, the patentee failed to "stake out the boundaries" of his invention in this claim. The situation is analogous to that where the grantor of a supposedly rectangular tract of land in his deed omitted one side of the rectangle from his description. The effect

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* "A claim may declare that it covers so much of the desired mechanism as effects a particular specified result, without specifying those parts themselves."
Walker on Patents, Sixth Edition, Section 219, page 295.
Silsby v. *Foote*, 14 How. 218, 225.
Hoe v. *Knap*, 27 Fed. 204.

of the claim and the effect of the deed alike are a nullity, for neither describes anything definite. It is an entirely different situation from that of a patentee who—

> "has claimed more than that of which he was the first or original inventor or discoverer."

Such a patentee is rather in the position of a grantee whose deed adequately describes a tract of land one acre in extent and who predicates upon it a claim to a tract two acres in extent.

The interpretation placed by the Court on the Master's report in respect to claim 37 invokes an entirely different statutory provision, namely, Section 4886 of the Revised Statutes. It is this section which defines patentable subject matter as—

> "any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements thereof."

And it is because the courts have held that an *idea or a function or result only* is not included within the limitations of Section 4886 that a patent or a claim therefor is invalid. Relating, as it does, to "a control system for an elevator car" claim 37 is clearly embraced by the language quoted and patentable subject matter. No language of this provision pertains to the form or definiteness of the patent or claim.

THE COURT CLEARLY MISINTERPRETS AND MISAPPLIES THE DISCLAIMER STATUTES AND THE DECISIONS OF THE SUPREME AND OTHER FEDERAL COURTS PERTAINING THERETO AND SUBSTITUTES A RULE OF DOUBT FOR THAT OF CONVICTION OF AWARENESS BASED UPON ADJUDICATION LAID DOWN IN THE ENSTEN CASE FOR TOLLING THE LIMITATION UPON THE FILING OF THE DISCLAIMER.

The language of the disclaimer statutes quoted in the opinion makes it clear that the filing of a disclaimer is required only when any material or substantial part of the

thing patented was not the invention or discovery of the patentee. When such is the case the requirement is that the disclaimer be filed without unreasonable neglect or delay. The provisions of the statutes were obviously intended to relieve a patentee from forfeiture of all rights under his patent consequent upon having included in it more than that of which he was the inventor or discoverer and in *Ensten* v. *Simon Ascher & Co.,* 282 U. S. 445, 455, were characterized as benign. Under accepted rules of statutory construction they should be fairly interpreted with a view to the end sought, namely, the protection of a patentee in his actual invention. As the court said in the *Ensten* case (282 U. S. 445, 452):

> "The statute is remedial; the intent is to aid the inventor free from wilful default or intention to mislead the public by permitting him to avoid the consequence of inadvertence, accident or mistake through prompt disavowal of the apparent right to exclude others from something improperly included in the words of his grant."

The question is:

What tolls the limitation of "unreasonable neglect or delay in filing" a disclaimer? In other words, when must a disclaimer be filed? In the Ensten case it was a final decree of a District Court of the United States adjudging the claim to be invalid in view of the prior art, *i. e.,* as too broad or including more than that of which "the patentee was the original or first inventor or discoverer," and the disclaimer was not filed until more than twenty-three months after the entry of the decree. In holding that the patentee in that case had "been guilty of unreasonable delay and" had "not brought himself within the beneficent provisions of the statute" the court adopted the classical statement of Robinson on Patents (1890) Vol. II, p. 284, as follows (p. 452):

> " 'The same principle which forbids a patentee to as-

> sert a right to more than he has actually invented compels him to disavow the right as soon as he discovers that it has been unjustly claimed. Unreasonable delay in disclaiming is thus tantamount to an original fraudulent claim, and through it the patentee loses the privilege of making the amendment by which alone his patent could be saved. The question of unreasonable delay is a question for the court, upon the facts as found either by its own investigation or the verdict of a jury. Delay begins whenever the patentee *becomes aware* that he has claimed more than he has invented or described. In cases where the excess is not apparent at once upon the inspection of the patent by the patentee, the *allowance of his claim by the patent office raises such a presumption in its favor that he may rely on its validity until a court of competent jurisdiction decides that it is broader than his real invention'.*"

The principle of that decision clearly is that the limitation of the statutes upon

> "unreasonable neglect or delay in filing"

a disclaimer begins to run when and only when a patentee

> "*becomes aware*"

that he was not

> "the original or first inventor or discoverer" of "a material or substantial part of the thing patented"

as a result of a decision of

> "a court of competent jurisdiction."

Overlooking the real significance of the principle thus stated and adopted by the Supreme Court this Court misinterpreted it and quoting another portion of the opinion with reference to it in substance erroneously says of the decision in the Ensten case that it—

> "Indicates that the determinative factor is not the finality of the decision, but the knowledge brought home to the patentee by the determination of a competent tribunal that he is the holder of a doubtful claim."

Thus in effect this Court would substitute for *awareness* by the patentee *impressed with certainty* by a final adjudi-

cation of a competent court or other tribunal, that he was not

> "the original or first inventor or discoverer" of "a material or substantial part of the thing patented"

as tolling that limitation, uncertainty impressed by a determination, at most interlocutory, that the claim is "doubtful," although the courts generally that all doubts are to be resolved in favor of the patentee—

> *Consolidated Contract Co.* v. *Hassam Paving Co.,* 227 Fed. 436 (C. C. A. 9).
>
> *Schumacher et al.* v. *Buttonlath Mfg. Co.,* 292 Fed. 522 (C. C. A. 9).
>
> *J. A. Mohr & Son* v. *Alliance Securities Co.,* 14 F. (2d) 799 (C. C. A. 9).
>
> *Donner* v. *Sheer Pharmacal Corp.,* 64 F. (2d) 217, (C. C. A. 8).

In other words, notwithstanding that no one previous to the decision of this Court has intimated that the language of the Master indicated that claim 37 was invalid because functional only, and the language itself certainly does not make any such assumption clear, this Court would strike down the Parker patent by imputing to plaintiff a cognizance which it never had,* and which apparently, if present even by inference, was first discovered by the erudition of this Court; that is, this Court finds awareness where, at the best, only doubt existed.

This misinterpretation of the disclaimer statutes and the decisions of the Supreme Court in the Ensten case and misapplication thereof to the facts here is further reflected in the court's reference to a quotation from *Radio Condenser Co.* v. *General Instrument Corp.* (C. C. A. 2), 65 F. (2d) 458, which, it is stated, has carried the interpretation of the Ensten case even further than this Court does in the opinion under consideration.

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*See also Lane affidavit filed herewith.

The opinion in *Radio Condenser Co.* v. *General Instruments Corp.* plainly indicates that the court intended to go no further in that case than the Supreme Court went in the Ensten case, for it is stated (65 F. (2d) 458, 459) that—

> "Delay begins whenever the patentee *becomes aware* that he has claimed more than he has invented or described."

The authority for that statement is none other than "Robinson on Patents (1890) Vol. II, p. 284," quoted with approval in *Ensten* v. *Simon, Ascher & Co.,* 282 U. S. 445, 453.

To be sure, the determination which that court regarded as starting the limitation upon the filing of a disclaimer was not the final decree of a federal court but it was, in effect, the final decision of the authority which granted the patent and consequently had the effect unquestionably of withdrawing from the patent the presumption of validity which otherwise would have attended it.

The decision in *Radio Condenser Co.* v. *General Instrument Corp.* (C. C. A. 2), 65 F. (2d) 458, manifestly does not apply here because—

(1) The court was there dealing with a situation where the patentee claimed to be the inventor of something he was not;

(2) The decision of the Examiner of Interferences on the question of who was the first inventor was in effect the decision of the authority which granted the patent and became final unless an appeal was promptly taken under Section 4904 of the Revised Statutes;

(3) There was no appeal taken from the decision of the Examiner of Interferences in that case; and the time for appeal had long expired;

(4) A counterclaim in that case was not filed until four years after the Examiner's decision became final; and

(5) In that case no disclaimer was filed at any time; whereas in the instant case there had been no final adjudication that claim 37 was invalid; the Master's recommendation that claim 37 was invalid simply because it was not sufficiently definite to comply with Section 4888 of the Revised Statutes and was still at large when the proper though unnecessary disclaimer was filed as distinguished from the requisite conviction by adjudication of its invalidity, as held in the Bassick case. Such a holding is not the *awareness* that the patentee claimed more than that of which he was the original or first inventor required even in the Radio Condenser case; and the disclaimer though proper was not necessary for the basis of the suggestion of invalidity (the Master's recommendation) was merely because it failed to describe a complete, operable mechanism and, therefore, was indefinite under Section 4888 of the Revised Statutes.

Unfortunately this Court failed to appreciate the full effect of an earlier decision of the same court in *Bassick Mfg. Co.* v. *Adams Grease Gun Corp.,* (C. C. A. 2) 52 F. (2d) 36, cited without comment, upon much more closely analogous facts and fully justifying plaintiff's position here. In the Bassick case the *court* not the master had actually held the claim there in question invalid and the decision had become final as to it but remained subject to review as to other claims of the patent until sixteen days before the disclaimer was filed. In disposing of defendant's motion to dismiss because of alleged delay in filing a disclaimer the court, speaking through Circuit Judge Swan, said (p. 39):

"It is contended that plaintiff cannot maintain its suit upon any of the claims of the Gullborg patent in suit because of delay in filing a disclaimer as to claim 12. This claim was held invalid in the litigation re-

ported as *Lyman Mfg. Co.* v. *Bassick Mfg. Co.,* 18 F. (2d) 29 (C. C. A. 6). That litigation included six suits, all of which were disposed of in a single opinion on March 23, 1927. Petitions for rehearing were filed in two of the suits, neither of which, however, involved claim 12. These petitions for rehearing having been denied May 13th, the plaintiff contends that the time for presenting a petition for certiorari did not expire until August 13th, and that its disclaimer filed on August 29th was well within the period which this court sanctioned as a reasonable time within which to disclaim, in *R. Hoe & Co.* v. *Goss Printing Press Co.* (C. C. A.) 31 F. (2d) 565, and *Ensten* v. *Simon, Ascher & Co.,* (C. C. A.) 38 F. (2d) 71, affirmed, 282 U. S. 445, 51 S. Ct. 207, 75 L. Ed. 453. The defendant, on the other hand, contends that in each of the suits involving claim 12 the mandate was filed April 23rd, so that the time to apply for a writ of certiorari expired July 23rd and the time to disclaim thirty days thereafter. The question is of seasonable action. Ordinarily, thirty days after the time expires to petition for certiorari would seem to give the patentee reasonable opportunity to determine his course of action, as we said in the Hoe and Ensten Cases. In the case at bar, however, the decision that claim 12 was invalid was announced in an opinion which was subject to review as to other claims until August 13th. We do not think the companion suits can be ignored merely because they did not involve claim 12. Had the writ of certiorari been allowed, the Supreme Court's decision as to the other claims might have resulted in such a construction of them as would have cast doubt upon the correctness of the lower court's disposition of claim 12. It was not an unreasonable delay for the patent owner to await this possibility before determining to file the disclaimer."

It will be noted that in that case no attempt was made to secure a rehearing or writ of certiorari with respect to claim 12, held invalid. Review was sought only as to the other claims. The court held that it was not unreasonable for the patent owner to *await the possibility* of a Supreme Court holding as to the other claims which might have re-

sulted in such a construction of them as would have cast doubt upon the lower court's disposition of claim 12.

Certainly under this authority there was no unreasonable delay in filing the disclaimer in the instant case, assuming (contrary to the fact) one was necessary, for at any time before filing its disclaimer the plaintiff could have argued the question of law as to whether or not claim 37 was invalid as not complying with Section 4888, irrespective of whether or not exception had been taken when he disclaimed if he had elected so to do.

We respectfully refer the Court to a further discussion of points and authorities cited in plaintiff's main brief on this appeal, pp. 168-185, inclusive, and in its reply brief, pp. 63-74, inclusive, particularly *Carson* v. *American Smelting Co.* (C. C. A. 9), 4 F. (2) 463, and *Sachs* v. *Hartford Electric Supply Co.* (C. C. A. 2), 47 F. (2) 743.

In the last paragraph of its opinion the court recognizes the confusion in the decisions of the Supreme Court and in the various circuits prior to the decision in the Ensten case on February 2, 1931, and at the time of the filing of the Master's report in this case on or about February 25, 1930, in respect to disclaimer requirements. Notwithstanding this:

(a) notwithstanding the admittedly tentative character of the Master's report and the reservation to the court of the determination of questions of law arising therefrom (including the interpretation of a patent claim), especially in view of the unfortunate situation prevailing in the federal courts of California in respect to references to Masters in patent cases;

(b) notwithstanding the Master's recommendations in respect to claim 37 that it was invalid only because insufficient under Revised Statutes, Sec. 4888 (which this Court, says, taken in connection with even a casual reading of the claim, found it covered a function only;

(c) despite the fact that this question has not been argued and whereas both plaintiff and defendants

had consistently considered that the Master regarded it as indefinite);

(d) notwithstanding neither defendants nor the public have been prejudiced by plaintiff's filing a disclaimer of claim 37 or taking no exception to the Master's final report in respect to that claim; and

(e) notwithstanding uncertainty in the decisions of the courts in respect to the filing of a proper as distinguished from a necessary disclaimer and whether in view of the susceptibility of the recommendation of the Master to conflicting interpretations, as the opinion of this court shows, a disclaimer of claim 37 would be either proper or necessary;

this Court, in one and the same opinion, overlooking the remedial character of the disclaimer statutes as noted in the Ensten case and, we submit, departing from fundamental principles of equity, has for the first time adjudicated both the invalidity of the claim and the limitation upon the filing of a disclaimer thereof, thus in effect retroactively imposing a duty and simultaneously determining a default in the performance thereof and with one blow destroyed a patent for what the Master held to be an important invention (R. 574), and which the trial Court has sustained.

THE COURT INDICATES—ERRONEOUSLY WE SUBMIT—THAT THE FILING OF A DISCLAIMER BY PLAINTIFF ON MAY 1, 1931, IS AN ADMISSION BY PLAINTIFF THAT IT WAS UNDER THE NECESSITY OF SO DOING.

Such an inference is not only harsh in view of the quandary in which any patent owner must have found himself under the circumstances, especially where (as the Master considered, R. 570)—

"the other claims amply protect the invention,"

but, we feel, unwarranted in view of the confusion in the decisions of the courts interpreting the disclaimer statutes before and since the date when the disclaimer was filed.

Plaintiff's act in filing the disclaimer was clearly voluntary and subject to no adverse inference. As Judge Learned Hand said in *Sachs* v. *Hartford,* 47 F. (2d) 743,

747, in respect to a patentee's right voluntarily to file a disclaimer,

> "There is no objection to his limiting a valid patent as his fears may dictate."

As Judge Denison, speaking for the Court of Appeals of the Sixth Circuit, in *Permutit Co.* v. *Wadham,* 13 F. (2d) 454, 457, said:

> "We do not understand that a disclaimer to avoid the supposed anticipating or limiting effect of some other publication is a confession that the patent would be void if the disclaimer were not made. The patentee decides a question of policy; he may think that, although the supposed anticipation can be successfully met and defeated, a disclaimer will not affect the real value of his patent, and to make it will save trouble and expense and do no harm. We see no reason why he is not at liberty, after the disclaimer as before, to deny the anticipatory effect of the other matter; and it has been so held. *Manhattan Co.* v. *Helios Co.,* 135 F. 785, 802."

See also:

Manhattan General Const. Co. v. *Helois-Upton Co.,* 135 Fed. 785, 802 (C. C. Pa.);

Walker on Patents, Sixth Ed. p. 342, Sec. 258;

Bay State Optical Co. v. *Klein,* 20 F. (2d) 915, 917.

CONCLUSION.

For the reasons stated in the petition for rehearing and this brief, we feel that the Court should grant the prayer of the petition, and either give plaintiff an opportunity to present the questions here involved by oral argument, or in the alternative, reverse or reform its opinion to comply with the prayer of the petition.

Respectfully submitted,

Wallace R. Lane,
William H. Hunt,
Edwin W. Sims,
Clarence J. Loftus,
Raymond Ives Blakeslee.